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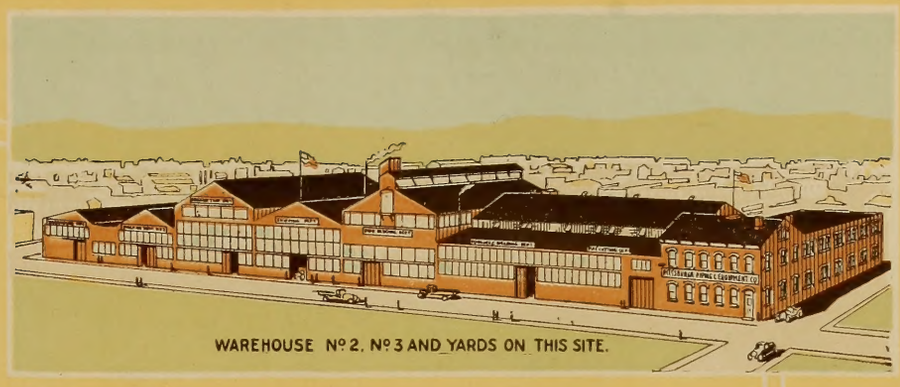

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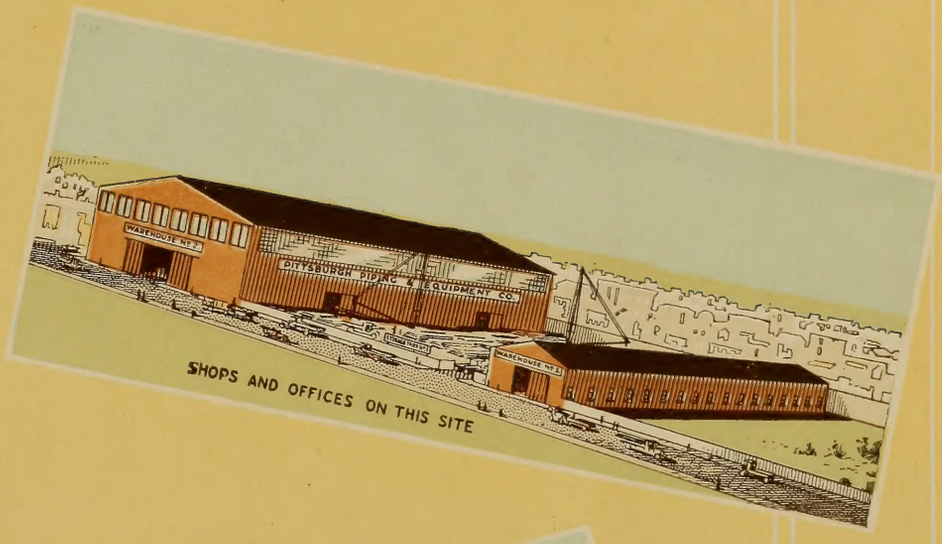

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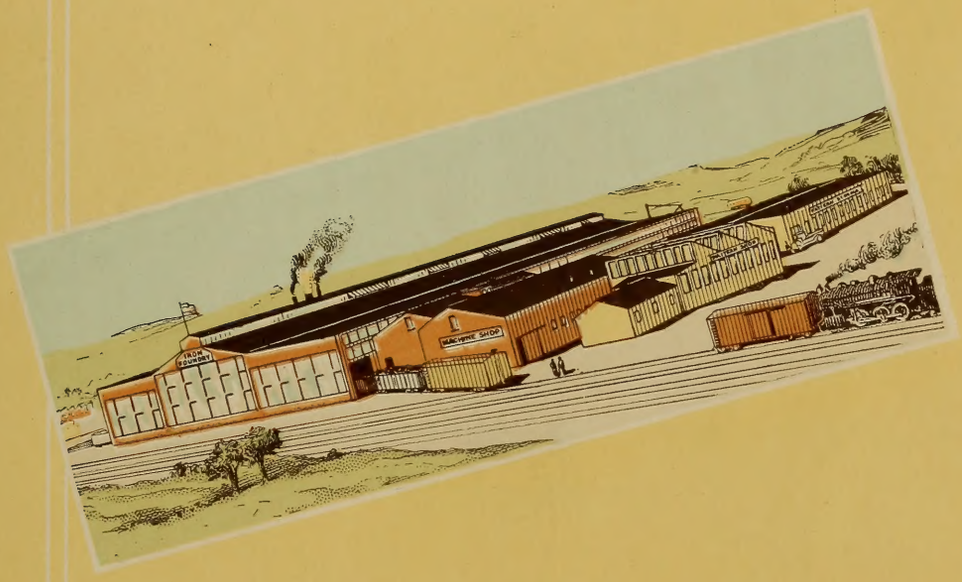

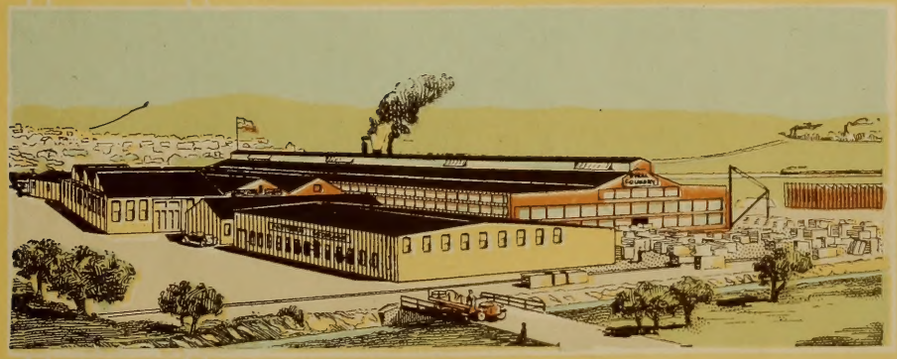

Pittsburgh Piping & Equipment Company

Pittsburgh, Pa.

PITTSBURGH PIPING AND EQUIPMENT CO.

TABLES OF PIPING STANDARDS

MAIN OFFICE AND WORKS:

35th, CHARLOTTE AND SMALLMAN STREETS,

PITTSBURGH, PA.

BRANCH OFFICES:

AMERICAN TRUST BUILDING,
CLEVELAND, OHIO

PEOPLES GAS BUILDING,
CHICAGO, ILL.

ST. PAUL BUILDING,
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TRACTION TERMINAL BUILDING,
INDIANAPOLIS, IND.

AMERICAN TRUST BUILDING
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MONADNOCK, BUILDING,
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TABLES OF PIPING STANDARDS

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MAIN OFFICE AND WORKS:
36th, CHARLOTTE AND SMALLMAN STREETS,
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PITTSBURGH PIPING & EQUIPMENT CO.

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STANDARD SPECIFICATIONS FOR POWER PIPING

Adopted by the Power Piping Society June 24, 1915

GENERAL REQUIREMENTS

In the absence of a distinct specification by the Purchaser, all material furnished shall conform to these specifications.

It is the intention that all material furnished hereunder shall be of the quality and weight which experience has shown to be safe and economical, hence the pressures specified are somewhat under those at which satisfactory service can be expected under favorable conditions, but as high as good practice will permit.

In the event of a specification by the Purchaser for service more severe for a given class of material than that given herein, such material shall be furnished at the Purchaser's risk, and any guarantees for such material made hereunder become null and void.

MATERIALS

Castings: All castings shall be smooth and free from injurious defects.

Cast Steel: The metal in steel castings shall conform to the requirements of the American Society for Testing Materials for "Medium Castings."

Semi-Steel: The metal in semi-steel castings shall have a tensile strength of not less than 30,000 pounds per square inch. A transverse test of the "Arbitration Bar," as outlined by the American Society for Testing Materials, supported 12 inches between centers shall show before breaking a load of 3,300 pounds and a deflection of not less than .12 inches.

Gray Iron: The metal in gray iron castings shall have a tensile strength of not less than 20,000 pounds per square inch. A transverse test as for Semi-Steel shall show before breaking a load of 2,900 pounds and a deflection of .10 inches.

DIMENSIONS OF FLANGED FITTINGS

All standard and extra heavy flanged fittings shall conform to the center to face, thickness, and flange dimensions of the "American Standard," as recommended in 1914 by the A. S. M. E. Fittings used for working steam pressures 25 pounds and lower, and for water pressures 50 pounds and lower, may be lighter in the shell than the American Standard for 125 pounds working pressure.

DRILLING AND FACING OF FLANGES

All drilling of flanges shall conform to the templates of the said "American Standard," and shall straddle centers.

Standard flanges shall be plain faced. Extra heavy flanges shall have raised face extending to the inside edge of bolt holes.

SPOTFACING AND BACKFACING

Flanges of Standard Cast Iron material shall be either spotfaced or backfaced for sizes 30 inch and above. All Cast Steel Flanges shall be spotfaced.

STANDARD SPECIFICATIONS FOR POWER PIPING

Adopted by the Power Piping Society June 24, 1915

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Gray Iron: The metal in gray iron castings shall have a tensile strength of not less than 20,000 pounds per square inch. A transverse test as for Semi-Steel shall show before breaking a load of 2,500 pounds and a deflection of .10 inches.

DIMENSIONS OF FLANGED FITTINGS

All standard and extra heavy flanged fittings shall conform to the center to face thickness, and flange dimensions of the "American Standard," as recommended in 1914 by the A. S. M. E. Fittings used for working steam pressures 75 pounds and lower, and for water pressures 50 pounds and lower, may be lighter in the shell than the American Standard for 125 pounds working pressure.

DRILLING AND FACING OF FLANGES

All drilling of Flanges shall conform to the templates of the said "American Standard," and shall straddle centers.

Standard Flanges shall be plain faced. Extra heavy flanges shall have raised face extending to the inside edge of bolt holes.

SPOTFACING AND BACKFACING

Flanges of Standard Cast Iron material shall be either spotfaced or backfaced for sizes 3in inch and above. All Cast Steel Flanges shall be spotfaced.

TYPE OF JOINTS

The following sizes are the smallest for which flanged joints will be required except for unions. Below these sizes screwed connections may be used:

Superheated Steam	2 inches
Saturated Steam above 125 pounds	2½ inches
Boiler Feed	2½ inches
Exhaust	2½ inches
Low Pressure Water	2½ inches
Blow-Off	2 inches
Drains	2½ inches

STOP VALVES

Where Stop Valves are required they shall be gate valves except for blow-off, or where their function is that of throttling, or for sizes smaller than ¾ inches, when they shall be either globe or angle valves.

All outside screw gate valves shall be back-seated to provide for re-packing under pressure.

Materials and test pressures for the various services shall be as follows:

Superheated Steam: Gate valves 2 inches and larger shall be extra heavy, outside screw and yoke pattern, with cast steel bodies, bonnets, discs and yokes; monel metal or 23 per cent. nickel steel seats and disc rings; monel metal or 23 per cent. nickel steel stems; and monel metal or 23 per cent. nickel steel backseating bushing below the stuffing box. Valves 8 inches and larger shall be by-passed.

Globe and angle valves 2 inches and larger shall conform to the same general specification.

All stop valves 1½ inches and smaller shall be extra heavy and shall be made of bronze containing not less than 10 per cent. of nickel.

Valves shall be tested to 800 pounds hydrostatic pressure.

Saturated Steam between 150 pounds and 250 Pounds per Square Inch, Inclusive: Gate valves 2½ inches and larger shall be extra heavy, outside screw and yoke pattern, with semi-steel bodies, bonnets, discs and yokes; bronze seats and disc rings; and bronze stems. Gate valves 8 inches and larger shall be by-passed.

Globe and angle valves 2½ inches and larger shall conform to the same general specification.

All stop valves 2 inches and smaller shall be extra heavy bronze.

Valves shall be tested to 800 pounds hydrostatic pressure.

Saturated Steam between 125 Pounds and 149 Pounds per Square Inch, Inclusive: Gate valves 2½ inches and larger shall be medium, outside screw and yoke pattern, tested to 500 pounds hydrostatic pressure, with gray iron bodies, bonnets, discs and yokes; bronze seats and disc rings; and bronze stems.

Gate valves 10 inches and larger shall be by-passed.

Globe and angle valves 2½ inches and larger shall be extra heavy pattern, tested to 800 pound hydrostatic pressure, but otherwise to the same general specification.

All stop valves 2 inches and smaller shall be extra heavy bronze, tested to 500 pounds hydrostatic pressure.

Boiler Feed between 125 Pounds and 250 Pounds per Square Inch, Inclusive: Gate valves 2½ inches and larger shall be extra heavy, outside screw and yoke pattern, with semi-steel bodies, bonnets, discs and yokes; bronze seats and disc rings; and bronze stems.

Globe and angle valves 2½ inches and larger shall conform to the same general specification.

Check valves 2½ inches and larger shall be extra heavy pattern, with bronze seats and disc rings.

All stop valves and check valves 2 inches and smaller shall be extra heavy bronze.

Valves shall be tested to 800 pounds hydrostatic pressure.

Exhaust: Gate valves 14 inches and larger shall be outside screw and yoke, low pressure pattern, suitable for 25 pounds working steam pressure, with gray iron bodies, bonnets, discs and yokes; bronze seats and disc rings; and rolled steel stems. Where space does not permit using outside screw and yoke, inside screw patterns may be used.

Gate valves 2½ inches to 12 inches, inclusive, shall be standard pattern, outside screw and yoke, suitable for 125 pounds working pressure, with gray iron bodies, bonnets, discs and yokes; bronze seats and disc rings; and rolled steel stems.

Gate valves 2 inches and smaller shall be standard brass.

Suction and Low Pressure Water: Gate valves shall conform to the same specification as for *"Exhaust"* except that in every case bronze stems shall be used.

Check valves shall be standard pattern swing checks with bronze seats and disc rings.

Blow-Off: Blow-off connections shall be double valved.

TYPE OF JOINTS

The following sizes are the smallest for which flanged joints will be required except for valves. Below these sizes screwed connections may be used:

Superheated Steam	2 inches
Saturated Steam above 125 pounds	2½ inches
Boiler Feed	2½ inches
Exhaust	2½ inches
Low Pressure Water	2½ inches
Blow-Off	2 inches
Drains	2½ inches

STOP VALVES

Where Stop Valves are required they shall be gate valves except for blow-off, or where their function is that of throttling, or for sizes smaller than 1¼ inches, when they shall be either globe or angle valves.

All outside screw gate valves shall be back-seated to provide for re-packing under pressure.

Materials and test pressures for the various services shall be as follows:

Superheated Steam: Gate valves 2 inches and larger shall be extra heavy, outside screw and yoke pattern, with cast steel bodies, bonnets, discs and yokes; monel metal mounted or 25 per cent. nickel steel seats and disc rings; monel metal or 23 per cent. nickel steel stems; and monel metal or 22 per cent. nickel steel backseating bushing below the stuffing box. Valves 8 inches and larger shall be by-passed.

Globe and angle valves 2 inches and larger shall conform to the same general specification.

All stop valves 2½ inches and smaller shall be extra heavy and shall be made of bronze containing not less than 10 per cent. of nickel.

Valves shall be tested to 800 pounds hydrostatic pressure.

Saturated Steam: Between 250 pounds and 250 Pounds per Square Inch, Inclusive: Gate valves 2½ inches and larger shall be extra heavy, outside screw and yoke pattern, with semi-steel bodies, bonnets, discs and yokes; bronze seats and disc rings; and bronze stems. Gate valves 8 inches and larger shall be by-passed.

Globe and angle valves 2½ inches and larger shall conform to the same general specification.

All stop valves 2 inches and smaller shall be extra heavy bronze.

Valves shall be tested to 800 pounds hydrostatic pressure.

Saturated Steam between 121 Pounds and 249 Pounds per Square Inch, Inclusive: Gate valves 2½ inches and larger shall be medium, outside screw and yoke pattern, tested to 500 pounds hydrostatic pressure, with gray iron bodies, bonnets, discs and yokes; bronze seats and disc rings; and bronze stems.

Gate valves 10 inches and larger shall be by-passed.

Globe and angle valves 2½ inches and larger shall be extra heavy pattern, tested to 500 pound hydrostatic pressure, but otherwise to the same general specification.

All stop valves 2 inches and smaller shall be extra heavy bronze, tested to 500 pounds hydrostatic pressure.

Boiler Feed between 121 Pounds and 250 Pounds per Square Inch, Inclusive: Gate valves 2½ inches and larger shall be extra heavy, outside screw and yoke pattern, with semi-steel bodies, bonnets, discs and yokes; bronze seats and disc rings; and bronze stems.

Globe and angle valves 2½ inches and larger shall conform to the same general specification.

Check valves 2½ inches and larger shall be extra heavy pattern, with bronze seats and disc rings.

All stop valves and check valves 2 inches and smaller shall be extra heavy bronze.

Valves shall be tested to 800 pounds hydrostatic pressure.

Exhaust: Gate valves 1¼ inches and larger shall be outside screw and yoke, low pressure pattern, suitable for 25 pounds working steam pressure, with gray iron bodies, bonnets, discs and yokes; bronze seats and disc rings; and rolled steel stems. Where globe does not permit using outside screw and yoke, inside screw patterns may be used.

Gate valves 2½ inches to 12 inches, inclusive, shall be standard pattern, outside screw and yoke, suitable for 125 pounds working pressure, with gray iron bodies, bonnets, discs and yokes; bronze seats and disc rings; and rolled steel stems.

Gate valves 2 inches and smaller shall be standard brass.

Suction and Low Pressure Water: Gate valves shall conform to the same specification as for "Exhaust" except that in every case bronze stems shall be used.

Check valves shall be standard pattern swing check with bronze seats and disc rings.

Blow-Off: Blow-off connections shall be double valved.

Drains between 125 Pounds and 250 Pounds per Square Inch: Valves shall conform to the specification for those for "Saturated Steam between 150 and 250 pounds per square inch, inclusive."

Low Pressure Drains: Valves shall conform to the specification for those for "*Exhaust.*"

Non-Return Valves: Non-return valves, either globe or angle type, shall be provided in each boiler connection. They shall work quietly and shall automatically prevent the flow of steam from the lines to the boilers and shall be provided with means for closing by hand.

For Superheated Steam they shall be extra heavy, cast steel, completely monel mounted, with monel metal pistons and dash pots if same are internal, and monel metal stems.

For Saturated Steam up to 250 pounds per square inch, they shall be semi-steel, completely bronze mounted, with bronze pistons and dash pots and bronze stems.

Non-return valves shall be installed preferably with stems in a vertical position.

FITTINGS

Superheated Steam: Fittings 2 inches and larger shall be extra heavy, cast steel. Fittings 1½ inches and smaller shall be forged or cast steel.

Saturated Steam, Boiler Feed and Drains between 125 Pounds and 250 Pounds per Square Inch, Inclusive: Fittings 2½ inches and larger shall be extra heavy, semi-steel. Elbows for boiler feed shall be long radius where possible. Fittings 2 inches and smaller shall be extra heavy, gray iron.

Exhaust, Suction, Low Pressure Water and Low Pressure Drains: Fittings 14 inches and larger shall be low pressure, gray iron, suitable for 25 pounds working steam pressure. Fittings 12 inches and smaller shall be standard cast iron.

Flanged elbows for water shall be long radius where possible.

Blow-Off: Fittings shall be extra heavy semi-steel. Long radius fittings shall be used where possible.

PIPE, FLANGES AND UNIONS

Van Stone flanges shall fit the pipe closely. The lap shall be finished off to the inside edge of the bolt holes and faced with a fine tool finish.

Screw flanges shall be made up by machine where possible and all extra heavy flanges made up in the shop shall be refaced.

Steel flanges shall correspond in thickness to the flanges of the American Standard for fittings.

Superheated Steam: Flanges 6 inches and larger shall be high hub steel, Van Stoned. Flanges 5 inches and smaller shall be steel, screwed.

Saturated Steam between 150 Pounds and 250 Pounds, Inclusive: Flanges 6 inches and larger shall be low hub steel, Van Stoned.

Flanges 5 inches and smaller shall be extra heavy semi-steel, screwed.

Saturated Steam between 125 Pounds and 149 Pounds per Square Inch, Inclusive: Flanges 14 inches and larger shall be extra heavy high hub semi-steel, Van Stoned.

Flanges 12 inches and smaller shall be extra heavy semi-steel, screwed.

Boiler Feed and Drain Piping between 125 Pounds and 250 Pounds per Square Inch, Inclusive: Flanges shall be extra heavy semi-steel, screwed.

Exhaust, Suction, Low Pressurs Water and Low Pressure Drains: Flanges 14 inches and larger shall be standard cast iron pattern, Van Stoned.

Flanges 12 inches and smaller shall be stand cast iron, screwed.

Blow-Off: Flanges shall be extra heavy semi-steel, screwed.

Unions: On all screwed work a sufficient number of unions shall be used to facilitate repairs. One union shall be used near each screwed valve. Unions 1½ inches and larger shall be flanged and below 1½ inches they shall be gasketless, with non-corrosive seats.

WROUGHT PIPE

Wrought pipe shall be steel. Standard pipe shall be butt-welded for sizes 3 inches and smaller and lap-welded for sizes 3½ inches and larger. Extra strong pipe shall be butt-welded for sizes 2 inches and smaller and lap-welded for sizes 2½ inches and larger.

Steam between 150 Pounds and 250 Pounds per Square Inch, Inclusive: Pipe shall be full weight 7 inches and smaller. Sizes larger than 7 inch shall be of the following thicknesses or weights per foot: 8 inch, 28.55 pounds; 9 inch, 33.90 pounds; 10 inch, 40.48 pounds; 12 inch, 49.56 pounds; 14 to 20 inch, inclusive, ⅜ inch; 22 to 24 inch, inclusive, $\frac{7}{16}$ inch.

for those for "Saturated Steam between 150 and 200 pounds per square inch, inclusive."

Low Pressure Drains: Valves shall conform to the specification for those for "Exhaust."

Non-Return Valves: Non-return valves, either globe or angle type, shall be provided in each boiler connection. They shall work quietly and shall automatically prevent the flow of steam from the lines to the boilers and shall be provided with means for closing by hand.

For Superheated Steam: They shall be extra heavy, cast steel, completely monel mounted, with monel metal pistons and dash pots if same are internal, and monel metal stems.

For Saturated Steam up to 200 pounds per square inch, they shall be semi-steel, completely bronze mounted, with bronze pistons and dash pots and bronze stems.

Non-return valves shall be installed preferably with stems in a vertical position.

FITTINGS

Superheated Steam: Fittings 2 inches and larger shall be extra heavy, cast steel. Fittings 1½ inches and smaller shall be forged or cast steel.

Saturated Steam, Boiler Feed and Pump Suction between 125 Pounds and 200 Pounds per Square Inch, Inclusive: Fittings 2½ inches and larger shall be extra heavy, semi-steel. Elbows for boiler feed and pump suction as long radius where possible. Fittings 2 inches and smaller shall be extra heavy, gray iron.

Exhaust, Vacuum, Low Pressure Water and Low Pressure Drains: Fittings 14 inches and larger shall be low pressure, gray iron, suitable for 25 pounds working steam pressure. Fittings 12 inches and smaller shall be standard cast iron.

Flanged elbows for water shall be long radius where possible.

Blow-Off: Fittings shall be extra heavy semi-steel. Long radius fittings shall be used where possible.

PIPE, FLANGES AND UNIONS

Cast Iron Flanges: Van Stone flanges shall fit the pipe closely. The lap shall be finished off to the inside edge of the bolt holes and faced with a fine tool finish.

Screw Flanges shall be made up by reaming where possible and all extra heavy flanges made up in the shop shall be retaced.

Steel Flanges shall correspond in thickness to the flanges of the American Standard for list ings.

Superheated Steam: Flanges 6 inches and larger shall be high hub weld, Van Stoned. Flanges 5 inches and smaller shall be steel, screwed.

Saturated Steam between 150 Pounds and 200 Pounds, Inclusive: Flanges 6 inches and larger shall be low hub steel, Van Stoned.

Flanges 5 inches and smaller shall be extra heavy semi-steel, screwed.

Saturated Steam between 125 Pounds and 150 Pounds per Square Inch, Inclusive: Flanges 14 inches and larger shall be extra heavy high hub semi-steel, Van Stoned.

Flanges 12 inches and smaller shall be extra heavy semi-steel, screwed.

Boiler Feed and Pump Suction between 125 Pounds and 200 Pounds per Square Inch, Inclusive: Flanges shall be extra heavy semi-steel, screwed.

Exhaust, Suction, Low Pressure Water and Low Pressure Drains: Flanges 14 inches and larger shall be standard cast iron pattern, Van Stoned.

Flanges 12 inches and smaller shall be stand cast iron, screwed.

Blow-Off: Flanges shall be extra heavy semi-steel, screwed.

Unions: On all screwed work a sufficient number of unions shall be used to facilitate repairs. One union shall be used near each screwed valve. Unions 1½ inches and larger shall be flanged and below 1½ inches they shall be gasketless, with non-corrosive seats

WROUGHT PIPE

Wrought pipe shall be steel. Standard pipe shall be butt-welded for sizes 3 inches and smaller and lap-welded for sizes 3½ inches and larger. Extra strong pipe shall be butt-welded for sizes 2 inches and smaller and lap-welded for sizes 2½ inches and larger.

Steam between 150 Pounds and 200 Pounds per Square Inch, Inclusive: Pipe shall weigh 7 inches and smaller: Sizes larger than 7 inch shall be of the following thicknesses or weights per foot: 8 inch, 28.55 pounds; 9 inch, 32.90 pounds; 10 inch, 40.48 pounds; 12 inch, 49.56 pounds; 14 to 20 inch, inclusive, ⅜ inch; 22 to 24 inch, inclusive, ½ inch.

Steam between 125 Pounds and 149 Pounds per Square Inch, Inclusive; Suction and Low Pressure Water: Pipe shall be full weight 7 inches and smaller. Sizes larger than 7 inch shall be of the following thicknesses or weights per foot: 8 inch, 24.69 pounds; 9 inch, 33.90 pounds; 10 inch, 34.24 pounds; 12 inch, 43.77 pounds; 14 to 20 inch, inclusive, $\frac{5}{16}$ inch; 22 inch to 24 inch, inclusive, $\frac{3}{8}$ inch.

Boiler Feed : Pipe for pressures between 150 and 250 pounds per square inch, inclusive, shall be extra strong and between 125 pounds and 149 pounds per square inch, inclusive, shall conform to the specification for "Steam" for the same pressures.

Exhaust Piping: Pipe 7 inches and smaller shall be full weight; 8 inch to 12 inch, inclusive, shall be the same as for "Steam" between 125 pounds and 149 pounds, inclusive; between 14 inches and 18 inches, inclusive, it shall be $\frac{1}{4}$ inch; and between 20 inches and 24 inches, inclusive, it shall be of the lightest card weight.

Blow-Off: Pipe shall be extra strong.

Drains: Pipe shall conform to the specification for Steam Piping for the same pressure and service.

Welding: Where it is advisable economically, branches shall be welded to main piping, in preference, to the use of fittings. All welds so made shall receive a hammer test under hydrostatic pressure three times the working pressure. The fillets shall be built up to a radius equal to not less than three times the thickness of the pipe wall.

Bends: Bends shall be used for changes of alignment in preference to fittings. They shall be substantially round in section and free from injurious buckles. Radii equal to 6 diameters of the pipe shall be used where possible.

CAST IRON PIPE

Where used for exhuast, suction, and low pressure water, cast iron pipe shall correspond in thickness to "Class A" pipe as specified by the American Water Works Association.

BOLTS

All flange bolts 1½ inches in diameter and smaller shall have square heads and U. S. Standard, hexagonal, cold bunched, chamfered and trimmed nuts. For bolts larger than 1½ inches, studs with two nuts may be used. When pulled up, the bolt thread shall extend completely through the nut.

GASKETS

Gaskets shall fit inside of bolt holes for all lines not under vacuum. Vacuum lines shall have full faced gaskets.

Sheet gaskets up to and including 12 inch size shall be $\frac{1}{16}$ inch thick; and for 14 inches and larger they shall be $\frac{1}{32}$ inch thick.

Superheated Steam: Gaskets shall be $\frac{1}{16}$ inch Tauril, Durabla, Vanda, Hodgart, or Corrugated Steel coated with Smooth-On Cement.

Saturated Steam; Boiler Feed, Blow-Off and Drains: Gaskets shall be Rainbow or equivalent, or corrugated copper.

Exhaust: Gaskets shall be Rainbow or equivalent.

Suction and Low Pressure Water: Gaskets shall be cloth inserted rubber.

SUPPORTS

A sufficient number of supports, preferably hangers, shall be provided and so placed that their working stresses shall have a factor of safety of not less than six, assuming that each hanger is bearing its proportion of the load with the line full of water.

Sufficient anchorage shall be provided where necessary.

Steam between 125 Pounds and 250 Pounds per Square Inch. Jacketing: Section and Low Pressure Water: Pipe shall be full weight 2 inches and smaller. Sizes larger than 2 inch shall be of the following thicknesses or weights per foot: 6 inch, 34.48 pounds; 8 inch, 43.39 pounds; 10 inch, 54.74 pounds; 12 inch, 65.27 pounds; 14 to 20 inch, inclusive, $\frac{5}{16}$ inch; 22 inch to 24 inch, inclusive, $\frac{3}{8}$ inch.

Boiler Feed: Pipe for pressures between 150 and 250 pounds per square inch, inclusive, shall be extra strong and between 125 pounds and 149 pounds per square inch, inclusive, shall conform to the specification for "Steam" for the same pressures.

Blowoff Piping: Pipe 2 inches and smaller shall be full weight; 3 inch to 12 inch, inclusive, shall be the same as for "Steam" between 125 pounds and 149 pounds, inclusive; between 14 inches and 18 inches, inclusive, it shall be $\frac{1}{4}$ inch; and between 20 inches and 24 inches, inclusive, it shall be of the lightest card weight.

Blow-Off: Pipe shall be extra strong.

Drains: Pipe shall conform to the specification for Steam Piping for the same pressure and service.

Welding: Where it is advised to accomplish, branches shall be welded to main piping, in preference to the use of fittings. All welds so made shall receive a hammer test under hydrostatic pressure three times the working pressure. The fillets shall be built up to a radius equal to not less than three times the thickness of the pipe wall.

Bends: Bends shall be used for changes of alignment in preference to fittings. They shall be substantially round in section and free from injurious buckles. Radii equal to 6 diameters of the pipe shall be used where possible.

CAST IRON PIPE

Where used for exhaust, suction, and low pressure water, cast iron pipe shall correspond in thickness to "Class A" pipe as specified by the American Water Works Association.

BOLTS

All flange bolts 1½ inches in diameter and smaller shall have square heads and U. S. Standard, hexagonal, cold pressed, examined and trimmed nuts. For bolts larger than 1½ inches, studs with two nuts may be used. When pulled up, the bolt thread shall extend completely through the nut.

GASKETS

Gaskets shall fit inside of bolt holes for all lines not under vacuum. Vacuum lines shall have full faced gaskets.

Sheet gaskets up to and including 12 inch size shall be $\frac{1}{16}$ inch thick; and for 14 inches and larger they shall be $\frac{1}{8}$ inch thick.

Superheated Steam: Gaskets shall be $\frac{1}{8}$ inch Taurit, Durabla, Yarde, Hodgart, or Corrugated Steel coated with Smooth-On Cement.

Saturated Steam; Boiler Feed, Blow-Off and Drains: Gaskets shall be Rainbow or equivalent, or corrugated copper.

Exhaust: Gaskets shall be Rainbow or equivalent.

Suction and Low Pressure Water: Gaskets shall be cloth inserted rubber.

SUPPORTS

A sufficient number of supports, preferably hangers, shall be provided and so placed that their working stresses shall have a factor of safety of not less than six, assuming that each hanger is bearing its proportion of the load with the line full of water.

Sufficient anchorage shall be provided where necessary.

EXPLANATORY NOTES

(1) Standard and Extra Heavy Reducing Elbows carry same dimensions center to face as regular Elbows of largest straight size.

(2) Standard and Extra Heavy Tees, Crosses and Laterals, reducing on run only, carry same dimensions face to face as largest straight size.

(3) If Flanged Fittings for lower working pressure than 125 pounds are made, they shall conform in all dimensions, except thickness of shell, to this standard and shall have the guaranteed working pressure cast on each fitting.

Flanges for these fittings must be standard dimensions.

(4) Where long radius fittings are specified, it has reference only to Elbows which are made in two center to face dimensions and to be known as Elbows and Long Radius Elbows, the latter being used only when so specified.

(5) All standard weight fittings must be guaranteed for 125 pounds working pressure and extra heavy fittings for 250 pounds working pressure, and each fitting must have some mark cast on it indicating the maker and guaranteed working steam pressure.

(6) All extra heavy fittings and flanges to have a raised surface of $\frac{1}{16}$ inch high inside of bolt holes for gaskets.

Standard weight fittings and flanges to be plain faced.

Bolt holes to be $\frac{1}{8}$ inch larger in diameter than bolts.

Bolt holes to straddle center line.

(7) Size of all fittings scheduled indicates inside diameter of ports.

(8) The face to face dimensions of Reducers, either straight or eccentric, for all pressures, shall be the same face to face as given in table of dimensions.

(9) Square head bolts with hexagonal nuts are recommended.

For bolts, $1\frac{5}{8}$ inches diameter and larger, studs with a nut on each end are satisfactory.

Hexagonal nuts for pipe sizes 1 inch to 46 inches, on 125 pound standard, and 1 inch to 16 inches on 250 pound standard, can be conveniently pulled up with open wrenches of minimum design of heads. Hexagonal nuts for pipe sizes 48 inches to 100 inches on 125 pound, and 18 inches to 48 inches on 250 pound standards, can be conveniently pulled up with box wrenches.

(10) Twin Elbows, whether straight or reducing, carry same dimensions center to face and face to face as regular straight size elbows and tees. Side Outlet Elbows and Side Outlet Tees, whether straight or reducing sizes, carry same dimensions center to face and face to face as regular tees having same reductions.

(11) Bull Head Tees, or Tees increasing on outlet, will have same center to face and face to face dimensions as a straight fitting of the size of the outlet.

(12) Tees and Crosses 16 inches and down, reducing on the outlet, use the same dimensions as straight sizes of the larger port.

Size 18 inches and up, reducing on the outlet, are made in two lengths, depending on the size of the outlet as given in the table of dimensions. Laterals 16 inches and down reducing on the branch, use the same dimensions as straight sizes of the larger port.

(13) Sizes 18 inches and up, reducing on the branch, are made in two lengths, depending on the size of the branch as given in the table of dimensions. The dimensions of reducing flanged fittings are always regulated by the reductions of the outlet or branch. Fittings reducing on the run only, the long body pattern will always be used.

Y's are special and are made to suit conditions.

Double sweep tees are not made reducing on the run.

(14) STEEL FLANGES, FITTINGS AND VALVES ARE RECOMMENDED FOR SUPERHEATED STEAM.

EXPLANATORY NOTES

(1) Standard and Extra Heavy Reducing Elbows carry same dimensions center to face as regular Elbows of largest straight size.

(2) Standard and Extra Heavy Tees, Crosses and Laterals, reducing on run only, carry same dimensions face to face as largest straight size.

(3) If Flanged fittings for lower working pressure than 125 pounds are made, they shall conform in all dimensions, except thickness of shell, to this standard and shall have the guaranteed working pressure cast on each fitting.

Flanges for these fittings must be standard dimensions.

(4) Where long radius fittings are specified, it has reference only to Elbows which are made in two center to face dimensions and to be known as Elbows and Long Radius Elbows, the latter being used only when so specified.

(5) All standard weight fittings must be guaranteed for 125 pounds working pressure and extra heavy fittings for 250 pounds working pressure, and each fitting must have some mark cast on it indicating the maker and guaranteed working steam pressure.

(6) All extra heavy fittings and flanges to have a raised surface of $\frac{1}{16}$ inch high inside of bolt holes for gaskets.

Standard weight fittings and flanges to be plain faced.

Bolt holes to be $\frac{1}{8}$ inch larger in diameter than bolts.

Bolt holes to straddle center line.

(7) Size of all fittings scheduled indicates inside diameter of ports.

(8) The face to face dimensions of Reducers, either straight or eccentric, for all pressures, shall be the same face to face as given in table of dimensions.

(9) Square head bolts with hexagonal nuts are recommended.

For bolts, 1$\frac{1}{4}$ inches diameter and larger, studs with a nut on each end are satisfactory.

Hexagonal nuts for pipe sizes 1 inch to 48 inches, on 125 pound standard, and 1 inch to 12 inches on 250 pound standard, can be conveniently pulled up with pipe wrenches of minimum design of heads. Hexagonal nuts for pipe sizes 48 inches to 100 inches on 125 pound, and 18 inches to 48 inches on 250 pound standards, can be conveniently pulled up with box wrenches.

(10) Twin Elbows, whether straight or reducing, carry same dimensions center to face and face to face as regular straight size elbows and tees. Side Outlet Elbows and Side Outlet Tees, whether straight or reducing sizes, carry same dimensions center to face and face to face as regular tees bearing same reductions.

(11) Bull Head Tees, or Tees increasing on outlet, will have same center to face and face to face dimensions as a straight fitting of the size of the outlet.

(12) Tees and Crosses 16 inches and down, reducing on the outlet, use the same dimensions as straight sizes of the larger port.

Sizes 18 inches and up, reducing on the outlet, are made in two lengths, depending on the size of the outlet as given in the table of dimensions. Laterals 16 inches and down, reducing on the branch, use the same dimensions as straight sizes of the larger port.

(13) Sizes 18 inches and up, reducing on the branch, are made in two lengths, depending on the size of the branch as given in the table of dimensions. Tee dimensions of reducing flanged fittings are always regulated by the reductions of the outlet or branch. Fittings reducing on the run only, the long body pattern will always be used.

Y's are special and are made to suit conditions.

Double sweep tees are not made reducing on the run.

(14) STEEL FLANGES, FITTINGS AND VALVES ARE RECOMMENDED FOR SUPERHEATED STEAM.

PITTSBURGH PIPING & EQUIPMENT CO.

DRILLING TEMPLATE FOR STANDARD AND LOW PRESSURE

Size	Diameter Flanges	Thickness Flanges	Number of Holes	Size of Holes	Bolt Circle	Size of Gaskets
1	4	7/16	4	1/2	3	1 X 2 1/2
1 1/4	4 1/2	1/2	4	1/2	3 3/8	1 1/4 X 2 7/8
1 1/2	5	9/16	4	5/8	3 7/8	1 1/2 X 3 1/4
2	6	5/8	4	3/4	4 3/4	2 X 4
2 1/2	7	11/16	4	3/4	5 1/2	2 1/2 X 4 3/4
3	7 1/2	3/4	4	3/4	6	3 X 5 1/4
3 1/2	8 1/2	13/16	4	3/4	7	3 1/2 X 6 1/4
4	9	15/16	8	3/4	7 1/2	4 X 6 3/4
4 1/2	9 1/4	15/16	8	7/8	7 3/4	4 1/2 X 6 7/8
5	10	15/16	8	7/8	8 1/2	5 X 7 5/8
6	11	1	8	7/8	9 1/2	6 X 8 5/8
7	12 1/2	1 1/16	8	7/8	10 3/4	7 X 9 7/8
8	13 1/2	1 1/8	8	7/8	11 3/4	8 X 10 7/8
9	15	1 1/8	12	7/8	13 1/4	9 X 12 3/8
10	16	1 3/16	12	1	14 1/4	10 X 13 1/4
12	19	1 1/4	12	1	17	12 X 16
14	21	1 3/8	12	1 1/8	18 3/4	14 X 17 5/8
15	22 1/4	1 3/8	16	1 1/8	20	15 X 18 7/8
16	23 1/2	1 7/16	16	1 1/8	21 1/4	16 X 20 1/8
18	25	1 9/16	16	1 1/4	22 3/4	18 X 21 1/2
20	27 1/2	1 11/16	20	1 1/4	25	20 X 23 3/4
22	29 1/2	1 13/16	20	1 3/8	27 1/4	22 X 25 7/8
24	32	1 7/8	20	1 3/8	29 1/2	24 X 28 1/8
26	34 1/4	2	24	1 3/8	31 3/4	26 X 30 3/8
28	36 1/2	2 1/16	28	1 3/8	34	28 X 32 5/8
30	38 3/4	2 1/8	28	1 1/2	36	30 X 34 1/2
32	41 3/4	2 1/4	28	1 5/8	38 1/2	32 X 36 7/8
34	43 3/4	2 5/16	32	1 5/8	40 1/2	34 X 38 7/8
36	46	2 3/8	32	1 5/8	42 3/4	36 X 41 1/8
38	48 3/4	2 3/8	32	1 3/4	45 1/4	38 X 43 1/2
40	50 3/4	2 1/2	36	1 3/4	47 1/4	40 X 45 1/2

Size	Diameter Flanges	Thickness Flanges	Number of Holes	Size of Holes	Bolt Circle	Size of Gaskets
42	53	2 5/8	36	1 3/4	49 1/2	42 X 47 3/4
44	55 1/4	2 5/8	40	1 3/4	51 3/4	44 X 50
46	57 1/4	2 11/16	40	1 3/4	53 3/4	46 X 52
48	59 1/2	2 3/4	44	1 3/4	56	48 X 54 1/4
50	61 3/4	2 3/4	44	1 7/8	58 1/4	50 X 56 3/8
52	64	2 7/8	44	1 7/8	60 1/2	52 X 58 5/8
54	66 1/4	3	44	1 7/8	62 3/4	54 X 60 7/8
56	68 3/4	3	48	1 7/8	65	56 X 63 1/8
58	71	3 1/8	48	1 7/8	67 1/4	58 X 65 3/8
60	73	3 1/8	52	1 7/8	69 1/4	60 X 67 3/8
62	75 3/4	3 1/4	52	2	71 3/4	62 X 69 3/4
64	78	3 1/4	52	2	74	64 X 72
66	80	3 3/8	52	2	76	66 X 74
68	82 1/4	3 3/8	56	2	78 1/4	68 X 76 1/4
70	84 1/2	3 1/2	56	2	80 1/2	70 X 78 1/2
72	86 1/2	3 1/2	60	2	82 1/2	72 X 80 1/2
74	88 1/2	3 5/8	60	2	84 1/2	74 X 82 1/2
76	90 3/4	3 5/8	60	2	86 1/2	76 X 84 1/2
78	93	3 3/4	60	2 1/8	88 3/4	78 X 86 5/8
80	95 1/4	3 3/4	60	2 1/8	91	80 X 88 7/8
82	97 1/2	3 7/8	60	2 1/8	93 1/4	82 X 91 1/8
84	99 3/4	3 7/8	64	2 1/8	95 1/2	84 X 93 3/8
86	102	4	64	2 1/8	97 3/4	86 X 95 5/8
88	104 1/4	4	68	2 1/8	100	88 X 97 7/8
90	106 1/2	4 1/8	68	2 1/4	102 1/4	90 X 100
92	108 3/4	4 1/8	68	2 1/4	104 1/2	92 X 102 1/4
94	111	4 1/4	68	2 1/4	106 1/4	94 X 104
96	113 1/4	4 1/4	68	2 3/8	108 1/2	96 X 106 1/8
98	115 1/2	4 3/8	68	2 3/8	110 3/4	98 X 108 3/8
100	117 3/4	4 3/8	68	2 3/8	113	100 X 110 5/8

PITTSBURGH PIPING & EQUIPMENT CO.

DRILLING TEMPLATE FOR STANDARD AND LOW PRESSURE

Size	Diameter of Pipe	Diameter of Flange	No. of Holes	Size of Holes	Diameter of Bolt Circle	Size of Flanges	Size of Cast Iron Companion Flanges
1	4	4	4	5/8	3 1/2	5	1 x 2 1/2
1 1/4	4 1/4	4 1/2	4	5/8	3 7/8	5 1/4	1 1/4 x 2 7/8
1 1/2	5	4 1/2	4	5/8	4 1/4	6 1/8	1 1/2 x 3 1/2
2	6	4 7/8	4	5/8	4 3/4	6 1/2	2 x 4
2 1/2	7	5 1/2	4	5/8	5 1/2	7 1/2	2 1/2 x 4 1/2
3	7 1/2	6	4	5/8	5 7/8	8	3 x 5 1/2
3 1/2	8 1/2	6 1/2	4	5/8	6 1/2	9	3 1/2 x 6 1/2
4	9	7 1/2	8	5/8	7 1/2	10	4 x 6 1/2
4 1/2	9 1/2	7 1/2	8	5/8	7 1/2	10	4 1/2 x 6 1/2
5	10	8 1/2	8	5/8	8 1/2	11	5 x 7 1/2
6	11	9 1/2	8	5/8	9 1/2	12	6 x 8 1/2
7	12 1/2	10	8	5/8	10 5/8	13	7 x 9 1/2
8	13 1/2	11 1/2	8	5/8	11 3/4	14 1/2	8 x 10 1/2
9	15	12 1/2	12	5/8	13	15 1/2	9 x 12 1/2
10	16	13 1/2	12	5/8	14 1/4	16 1/2	10 x 13 1/2
12	19	16	12	5/8	17	19	12 x 16
14	21	18 1/2	12	5/8	18 3/4	21	14 x 17 1/2
15	22 1/2	19 1/2	16	5/8	20	22 1/2	15 x 18 1/2
16	23 1/2	20 1/2	16	5/8	21 1/4	23 1/2	16 x 20 1/2
18	25	22	16	5/8	23 1/4	25 1/2	18 x 21 1/2
20	27 1/2	24 1/2	20	5/8	25	27 1/2	20 x 23 1/2
22	29 1/2	26 1/2	20	5/8	27 1/4	29 1/2	22 x 25 1/2
24	32	28 1/2	20	5/8	29 1/2	32	24 x 27 1/2
26	34 1/4	30 1/2	28	5/8	31 3/4	34 1/2	26 x 29 1/2
28	36 1/2	32 1/2	28	5/8	34	36 1/2	28 x 31 1/2
30	38 1/2	34 1/2	28	5/8	36	38 1/2	30 x 33 1/2
32	41 1/4	36 1/2	28	5/8	38 1/2	41	32 x 35 1/2
34	43 1/2	38 1/2	32	5/8	40 1/2	43 1/2	34 x 37 1/2
36	46 1/2	40 1/2	32	5/8	42 3/4	46	36 x 39 1/2
40	50 1/2	44 1/2	36	5/8	47 1/4	50 1/2	40 x 43 1/2

PITTSBURGH PIPING & EQUIPMENT CO.

DRILLING TEMPLATE FOR EXTRA HEAVY PRESSURE

Size	Diameter Flanges	Thickness Flanges	Number of Holes	Size of Holes	Bolt Circle	Size of Gaskets
1	4 1/2	11/16	4	5/8	3 1/4	1 X 2 5/8
1 1/4	5	3/4	4	5/8	3 3/4	1 1/4 X 3 1/8
1 1/2	6	13/16	4	3/4	4 1/2	1 1/2 X 3 3/4
2	6 1/2	7/8	4	3/4	5	2 X 4 1/4
2 1/2	7 1/2	1	4	7/8	5 7/8	2 1/2 X 5
3	8 1/4	1 1/8	8	7/8	6 5/8	3 X 5 3/4
3 1/2	9	1 3/16	8	7/8	7 1/4	3 1/2 X 6 3/8
4	10	1 1/4	8	7/8	7 7/8	4 X 7
4 1/2	10 1/2	1 5/16	8	7/8	8 1/2	4 1/2 X 7 5/8
5	11	1 3/8	8	7/8	9 1/4	5 X 8 3/8
6	12 1/2	1 7/16	12	7/8	10 5/8	6 X 9 3/4
7	14	1 1/2	12	1	11 7/8	7 X 10 7/8
8	15	1 5/8	12	1	13	8 X 12
9	16 1/4	1 3/4	12	1 1/8	14	9 X 12 7/8
10	17 1/2	1 7/8	16	1 1/8	15 1/4	10 X 14 1/8
12	20 1/2	2	16	1 1/4	17 3/4	12 X 16 1/2
14	23	2 1/8	20	1 1/4	20 1/4	13 1/4 X 19
15	24 1/2	2 3/16	20	1 3/8	21 1/2	14 1/4 X 20 1/8
16	25 1/2	2 1/4	20	1 3/8	22 1/2	15 1/4 X 21 1/8
18	28	2 3/8	24	1 3/8	24 3/4	17 1/4 X 23 3/8
20	30 1/2	2 1/2	24	1 1/2	27	19 1/4 X 25 1/2
22	33	2 5/8	24	1 5/8	29 1/4	21 1/4 X 27 5/8
24	36	2 3/4	24	1 3/4	32	23 1/4 X 30 1/4
26	38 1/4	2 13/16	28	1 3/4	34 1/2	25 1/4 X 32 3/4
28	40 3/4	2 15/16	28	1 3/4	37	27 1/4 X 35 1/4
30	43	3	28	1 7/8	39 1/4	29 1/4 X 37 3/8
32	45 1/4	3 1/8	28	2	41 1/2	31 1/4 X 39 1/2
34	47 1/2	3 1/4	28	2	43 1/2	33 1/4 X 41 1/2
36	50	3 3/8	32	2	46	35 1/4 X 44
38	52 1/4	3 7/16	32	2	48	37 1/4 X 46
40	54 1/2	3 9/16	36	2	50 1/4	39 1/4 X 48 1/4
42	57	3 11/16	36	2	52 3/4	41 1/4 X 50 3/4
44	59 1/4	3 3/4	36	2 1/8	55	43 1/4 X 52 7/8
46	61 1/2	3 7/8	40	2 1/8	57 1/4	45 1/4 X 55 1/8
48	65	4	40	2 1/8	60 3/4	47 1/4 X 58 5/8

PITTSBURGH PIPING & EQUIPMENT CO.

DRILLING TEMPLATE FOR EXTRA HEAVY PRESSURE

Size	Diameter Flanges	Thickness Flanges	Number of Holes	Size of Holes	Bolt Circle	Size of Gaskets
1	4¼	11/16	4	5/8	3¼	1 x 1⅝
1¼	5	13/16	4	5/8	3½	1¼ x 1⅞
1½	6	15/16	4	3/4	4½	1½ x 2⅜
2	6½	1	4	3/4	5	2 x 2¾
2½	7½	1	4	3/4	5½	2½ x 3
3	8¼	1⅛	8	3/4	6⅝	3 x 3⅝
3½	9	1⅛	8	3/4	7¼	3½ x 4⅛
4	10	1¼	8	3/4	7⅞	4 x 4½
4½	10½	1⅜	8	3/4	8½	4½ x 5⅛
5	11	1⅜	8	7/8	9¼	5 x 5⅝
6	12½	1⅜	12	7/8	10⅝	6 x 6¾
7	14	1½	12	1	11⅞	7 x 7⅝
8	15	1⅝	12	1	13	8 x 8½
9	16¼	1¾	12	1⅛	14	9 x 9⅝
10	17½	1⅞	16	1⅛	15¼	10 x 10⅞
12	20½	2	16	1¼	17¾	12 x 13⅛
14	23	2⅛	20	1¼	20¼	13¼ x 14¼
15	24½	2⅜	20	1⅜	21½	14¾ x 15⅝

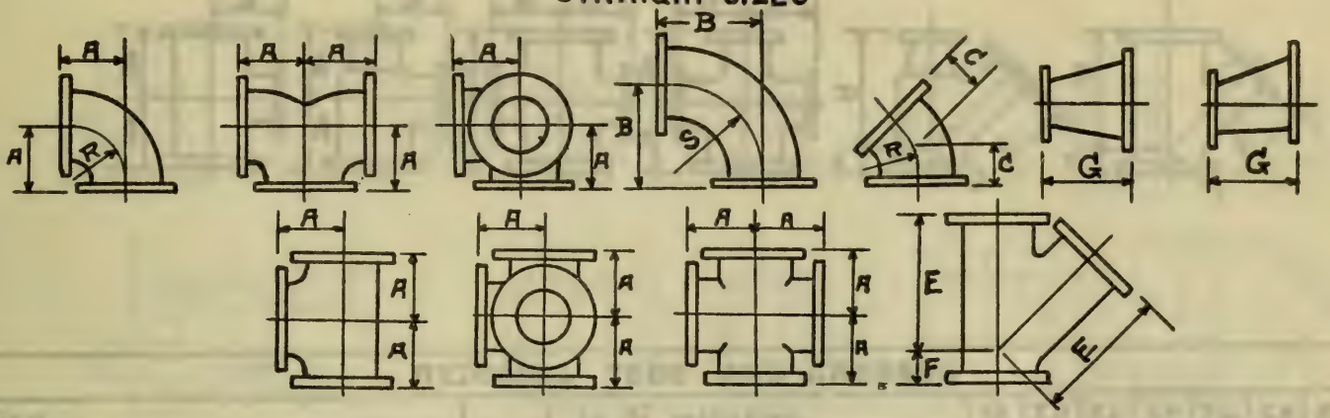
Size	Diameter Flanges	Thickness Flanges	Number of Holes	Size of Holes	Bolt Circle	Size of Gaskets
16	25½	2½	20	1⅜	22½	15¾ x 16⅞
18	28	2⅝	24	1⅜	24¾	17¼ x 18⅜
20	30½	2¾	24	1½	27	19¼ x 20½
22	33	2⅞	24	1⅝	29¼	21¼ x 21⅞
24	36	2⅞	24	1⅝	32	23¾ x 24¾
26	38¼	2⅞	28	1⅝	34½	25¼ x 26¼
28	40¾	2⅞	28	1⅝	37	27¼ x 28¼
30	43	3	28	1⅝	39¼	29¼ x 31⅜
32	45¼	3⅜	28	2	41½	31¼ x 32½
34	47½	3½	28	2	43½	33¼ x 34½
36	50	3⅝	32	2	46	35¼ x 36¼
38	52¼	3⅝	32	2	48	37¼ x 38¼
40	54½	3¾	36	2	50¼	39¼ x 40¼
42	57	3¾	36	2	52⅝	41¼ x 42⅜
44	59¼	3⅞	36	2⅛	55	43¼ x 44⅜
46	61½	3⅞	40	2⅛	57¼	45¼ x 46⅜
48	65	4	40	2⅛	60¼	47¼ x 48⅜

PITTSBURGH PIPING & EQUIPMENT CO.

GENERAL DIMENSIONS OF

STANDARD AND LOW PRESSURE FLANGED FITTINGS

STRAIGHT SIZES



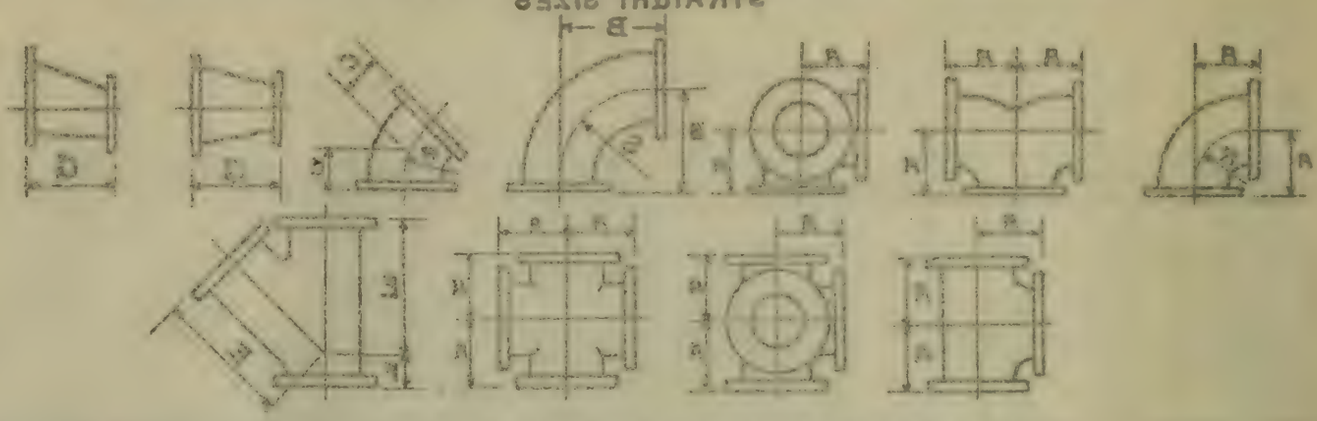
	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	15	16	18	20
A-C to F Ells, Tees, Crosses	3½	3¾	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	14	14½	15	16½	18
B-C to F Long Radius Ells	5	5½	6	6½	7	7¾	8½	9	9½	10¼	11½	12¾	14	15¼	16½	19	21½	22¾	24	26½	29
C-C to F 45° Ells	1¾	2	2¼	2½	3	3	3½	4	4	4½	5	5½	5½	6	6½	7½	7½	8	8	8½	9½
E-C to F Laterals	5¾	6¼	7	8	9½	10	11½	12	12½	13½	14½	16½	17½	19½	20½	24½	27	28½	30	32	35
F-C to F Laterals	1¾	1¾	2	2½	2½	3	3	3	3	3½	3½	4	4½	4½	5	5½	6	6	6½	7	8
G-F to F Reducers						6	6½	7	7½	8	9	10	11	11½	12	14	16	17	18	19	20
S-Radius L.R. Ells	4	4½	4¾	5¼	5⅝	6¼	6⅞	7⅜	7¾	8½	9⅝	10⅞	12	13	14	16½	18⅞	20	21¼	23½	26
R-Radius Std. Ells	2½	2¾	3	3¼	3¾	4	4½	5	5¼	5¾	6¼	6¾	7	8	9	10	11¾	12¼	12½	13½	15
Diameter of Flanges	4	4½	5	6	7	7½	8½	9	9¼	10	11	12½	13½	15	16	19	21	22¼	23½	25	27½
Thickness of Flanges	7/16	½	9/16	5/8	11/16	¾	13/16	15/16	15/16	15/16	1	1⅛	1⅛	1⅛	1¼	1⅜	1⅜	1⅜	1⅞	1⅞	1⅛
Thickness of Body 50#													½	½	½	½	½	½	5/8	5/8	11/16
Thickness of Body 125#	⅜	⅜	7/16	7/16	7/16	7/16	½	½	½	½	9/16	5/8	5/8	11/16	¾	13/16	⅞	⅞	1	1⅛	1⅛
Size	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62
A-C to F Ells, Tees, Crosses	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	37	39	41	42	44	45
B-C to F Long Radius Ells	31½	34	36½	39	41½	44	46½	49	51½	54	56½	59	61½	64	66½	69	71½	74	76½	79	81½
C-C to F 45° Ells	10	11	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
E-C to F Laterals	37½	40½	44	46½	49																
F-C to F Laterals	8½	9	9	9½	10																
G-F to F Reducers	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62
S-Radius L.R. Ells	28½	30¾	33	35	37½	41	44	47	48	50	53	55	57	60	63	66	68	70	72	75	77½
R-Radius Std. Ells	17	18½	20	21	21½	22½	23	24	25	26	26¾	27¾	28½	29½	30¼	32¼	33½	35	35¾	37	
Diameter of Flanges	29½	32	34¼	36½	38¾	41¾	43¾	46	48¾	50¾	53	55¼	57¼	59½	61¾	64	66¼	68¾	71	73	75¾
Thickness of Flanges	1 13/16	1⅞	2	2 1/16	2⅛	2¼	2 5/16	2⅜	2⅜	2½	2⅝	2⅝	2 1/16	2¾	2¾	2⅞	3	3	3⅛	3⅛	3¼
Thickness of Body 50#	¾	¾	13/16	13/16	⅞	⅞	⅞	1	1	1	1⅛	1⅛	1⅛	1¼	1¼	1¼	1 5/16	1 5/16	1⅜	1 7/16	
Thickness of Body 125#	1 3/16	1¼	1 5/16	1⅜	1½	1½	1 9/16	1⅝	1 11/16	1¾	1 13/16	1⅞	1 15/16	2	2 1/16	2⅛	2 3/16	2¼	2 5/16	2 7/16	2½
Size	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100		
A-C to F Ells, Tees, Crosses	47	48	50	51	53	54	56	58	59	60	62	63	65	67	68	69	71	73	74		
B-C to F Long Radius Ells	84	86½	89	91½	94	96½	99	101½	104	106½	109	111½	114	116½	119	121½	124	126½	129		
C-C to F 45° Ells	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
G-F to F Reducers	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100		
Diameter of Flanges	78	80	82¼	84½	86½	88½	90¾	93	95¼	97½	99¾	102	104¼	106½	108¾	111	113¼	115½	117¾		
Thickness of Flanges	3¼	3⅜	3⅜	3½	3½	3⅝	3⅝	3¾	3¾	3⅞	3⅞	4	4	4⅛	4⅛	4¼	4¼	4⅜	4⅜		
Thickness of Body 125#	2 9/16	2⅝	2 11/16	2¾	2 13/16	2⅞	2 15/16	3	3 1/16	3⅛	3 3/16	3¼	3 5/16	3⅜	3½	3 9/16	3⅝	3 11/16	3¾		

PITTSBURGH PIPING & EQUIPMENT CO.

GENERAL DIMENSIONS OF

STANDARD AND LOW PRESSURE FLANGED FITTINGS

STRAIGHT SIZES

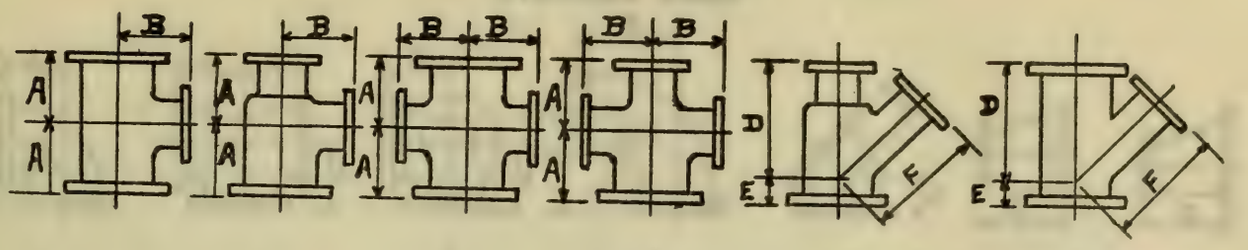


	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	15	16	18	20
A-C to F Ells, Tees, Crosses	3½	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16½	18
B-C to F Long Radius Ells	5	5½	6	6½	7	7½	8½	9	9½	10	10½	11	12	13½	14½	16	17	18	19	20½	22
C-C to F 45° Ells	1¾	2	2¼	2½	2¾	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½
E-C to F Laterals	3½	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16½	18
F-C to F Laterals	1¾	2	2¼	2½	2¾	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½
G-F to F Reducers	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	17	18
R-Reducing L.R. Ells	2½	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	9	10	11	12	13	14	15	16
R-Reducing Std. Ells	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	17	18
Diameter of Flanges	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	17	18
Thickness of Flanges	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜
Thickness of Body 150#																					
Thickness of Body 125#	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜
Size	2½	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	9	10	11	12	13	14	15	16
A-C to F Ells, Tees, Crosses	2½	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	9	10	11	12	13	14	15	16
B-C to F Long Radius Ells	3½	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16	17
C-C to F 45° Ells	2	2	2½	2½	3	3	3½	3½	4	4½	4½	5	5½	6	6½	7	7½	8	8½	9	9½
E-C to F Laterals	3½	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16	17
F-C to F Laterals	2	2	2½	2½	3	3	3½	3½	4	4½	4½	5	5½	6	6½	7	7½	8	8½	9	9½
G-F to F Reducers	3	3½	3½	4	4½	4½	5	5½	6	6½	6½	7	7½	8	9	10	11	12	13	14	15
R-Reducing L.R. Ells	3½	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16	17
R-Reducing Std. Ells	2½	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	9	10	11	12	13	14	15	16
Diameter of Flanges	3½	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16	17
Thickness of Flanges	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Thickness of Body 150#	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Thickness of Body 125#	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Size	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	17	18	19
A-C to F Ells, Tees, Crosses	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	17	18	19
B-C to F Long Radius Ells	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	13	14	15	16	17	18	19	20	21
C-C to F 45° Ells	3½	3½	4	4½	4½	5	5½	5½	6	6½	6½	7	7½	8	8½	9	9½	10	10½	11	11½
E-C to F Laterals	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	17	18	19
G-F to F Reducers	3½	3½	4	4½	4½	5	5½	5½	6	6½	6½	7	7½	8	8½	9	9½	10	10½	11	11½
Diameter of Flanges	7½	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14½	15½	16½	17½	18½	19½	20½	21½	22½
Thickness of Flanges	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Thickness of Body 125#	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD AND LOW PRESSURE FLANGED FITTINGS

SHORT BODY PATTERN



REDUCING TEES AND CROSSES

Size	1" to 16" inclusive	18	20	22	24	26	28	30	32	34
*Size of Outlet and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings.	12	14	15	16	18	18	20	20	22
A = C to F of Run		13	14	14	15	16	16	18	18	19
B = C to F of Outlet		15½	17	18	19	20	21	23	24	25

Size	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
*Size of Outlet and Smaller	24	24	26	28	28	30	32	32	34	36	36	38	40	40	42	44	44	46
A = C to F of Run	20	20	22	23	23	24	26	26	27	29	29	31	33	33	34	35	35	37
B = C to F of Outlet	26	28	29	30	31	33	34	35	36	37	39	40	41	42	44	45	46	47

Size	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100			
*Size of Outlet and Smaller	48	48	50	52	52	54	56	56	58	60	60	62	64	64	66			
A = C to F of Run	40	40	42	43	43	44	47	47	48	50	50	52	53	53	55			
B = C to F of Outlet	48	49	50	52	53	54	56	57	58	61	62	63	64	65	67			

REDUCING LATERALS

Size	1" to 16" inclusive	18	20	22	24	26	28	30		
*Size of Branch and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings.	9	10	10	12	12	14	15		
D = C to F of Run		25	27	28½	31½	35	37	39		
E = C to F of Run		1	1	½	½	0	0	0		
F = C to F of Branch		27½	29½	31½	34½	38	40	42		

*LONG BODY PATTERNS - are used when outlets are larger than given in the above table, therefor have same dimensions as straight size fittings.

The dimensions of "Reducing Flanged Fittings" are always regulated by the reduction of the outlet.

Fittings Reducing on the Run only, the long body pattern will always be used except Double Sweep Tees, on which the reduced end is always longer than the regular fitting. Dimensions on request.

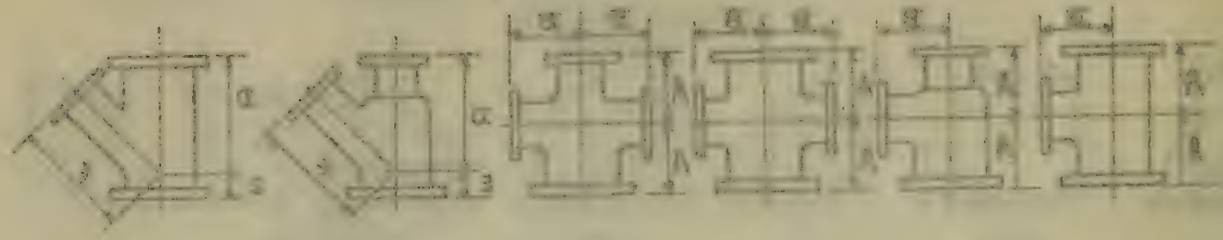
Bull Heads or Tees having outlets larger than the run, will be the same length center to face of all openings as a tee with all openings of the size of the outlet, for example: a 12 x 12 x 18 inch tee will be governed by the dimensions of the 18 inch long body tee; namely 16½ inches center to face of all openings and 33 inches face to face.

Reducing Elbows, carry same center to face dimensions as regular elbows of largest straight size.

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD AND LOW PRESSURE FLANGED FITTINGS

SHORT BODY PATTERN



REDUCING TEES AND CROSSES

Size	1" to 16" inclusive												
*Size of Outlet and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings	12	14	15	16	18	20	22	24	26	28	30	34
A - C to F of Run		13	14	14	15	16	18	19	20	21	22	23	25
B - C to F of Outlet		14½	15	15	16	17	19	20	21	22	23	24	26
Size	1"	1¼	1½	2	2½	3	3½	4	5	6	8	10	12
*Size of Outlet and Smaller	1"	1¼	1½	2	2½	3	3½	4	5	6	8	10	12
A - C to F of Run	2½	2¾	3	3½	3¾	4	4½	5	5½	6½	8½	10½	12½
B - C to F of Outlet	2½	2¾	3	3½	3¾	4	4½	5	5½	6½	8½	10½	12½
Size	1"	1¼	1½	2	2½	3	3½	4	5	6	8	10	12
*Size of Outlet and Smaller	1"	1¼	1½	2	2½	3	3½	4	5	6	8	10	12
A - C to F of Run	4½	4¾	5	5½	5¾	6	6½	7	7½	8½	10½	12½	14½
B - C to F of Outlet	4½	4¾	5	5½	5¾	6	6½	7	7½	8½	10½	12½	14½

REDUCING LATERALS

Size	1" to 16" inclusive												
*Size of Branch and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings	9	10	10	12	12	14	15	16	18	20	22	24
D - C to F of Run		25	27	28½	31½	35	37	39	41	43	45	47	49
E - C to F of Run		1	1	½	½	0	0	0	0	0	0	0	0
F - C to F of Branch		17½	18½	19½	21½	24½	26	27½	29	30½	32	33½	35

*LONG BODY PATTERN—are same within outlets one larger than given in the above table, these have same dimensions as straight size fittings.

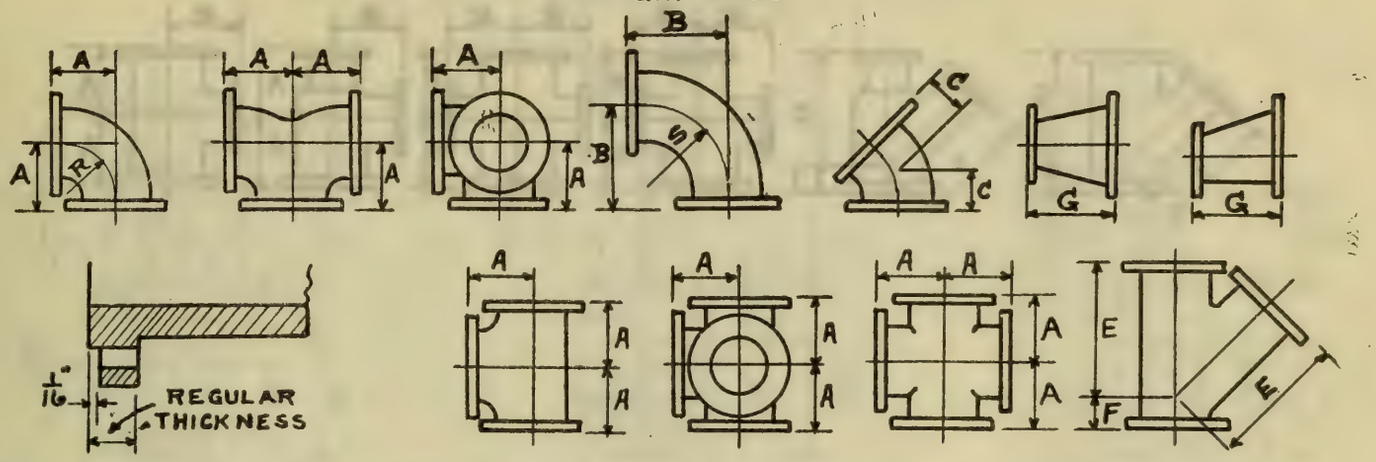
The dimensions of "Reducing Fitting Fittings" are always regulated by the end-dimensions of the outlet. Fittings Reducing on the Run only, this long body pattern will always be used except where Sweep Tees on which the reducing end is always longer than the regular fitting. Dimensions are given Wall Heads or Tees having outlets larger than the run, will be the same length center to face of all openings as a tee with all openings of the size of the outlet. For example—a 12 x 12 x 10 inch tee will be governed by the dimensions of the 10 inch long radius tee, namely the center to face of all openings and 33 inches face to face.

Reducing Elbows, carry same center to face dimensions as regular elbows of largest straight size.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY FLANGED FITTINGS

STRAIGHT SIZES



Note:- All extra heavy flanges have a 1/16 inch Raised Face inside of bolt holes. This Raised Face is included in face to face, center to face and thickness of flange dimensions.

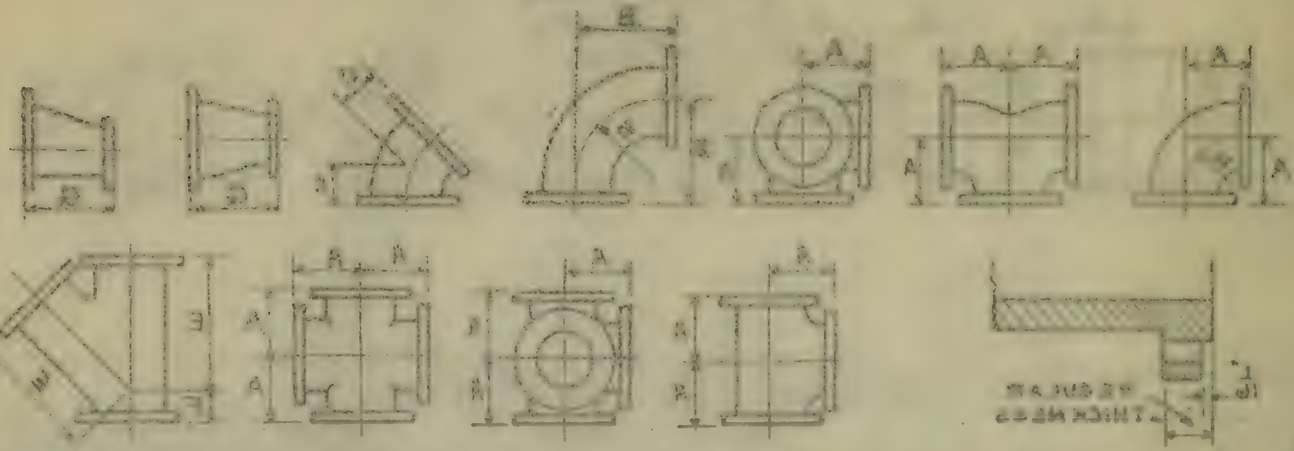
Size (Nominal)	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	15
Internal Diameter	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	13¼	14¼
A=C to F Ells, Tees, Crosses	4	4¼	4½	5	5½	6	6½	7	7½	8	8½	9	10	10½	11½	13	15	15½
B=C to F Long Radius Ells	5	5½	6	6½	7	7¾	8½	9	9½	10¼	11½	12¾	14	15¼	16½	19	21½	22¾
C=C to F 45° Ells	2	2½	2¾	3	3½	3½	4	4½	4½	5	5½	6	6	6½	7	8	8½	9
E=C to F Laterals	6½	7¼	8½	9	10½	11	12½	13½	14½	15	17½	19	20½	22½	24	27½	31	33
F=C to F Laterals	2	2¼	2½	2½	2½	3	3	3	3½	3½	4	4½	5	5	5½	6	6½	6½
G=F to F Reducers						6	6½	7	7½	8	9	10	11	11½	12	14	16	17
S=Radius L.R. Ells	4	4½	4⅞	5¼	5⅝	6¼	6⅞	7⅜	7¾	8½	9⅝	10⅞	12	13	14	16½	18⅞	20
R=Radius Std. Ells	3	3¼	3¼	3½	3¾	4¼	4¾	5	5½	6	6¼	6¾	7¾	8	9	10½	11¾	12¼
Diameter of Flanges	4½	5	6	6½	7½	8¼	9	10	10½	11	12½	14	15	16¼	17½	20½	23	24½
Thickness of Flanges	11/16	3/4	13/16	7/8	1	1 1/8	1 3/16	1¼	1 5/16	1 3/8	1 7/16	1½	1 5/8	1¾	1 7/8	2	2⅛	2 3/16
Thickness of Body	½	½	½	½	9/16	9/16	9/16	5/8	5/8	11/16	¾	13/16	13/16	7/8	15/16	1	1⅛	1 3/16

Size (Nominal)	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
Internal Diameter	15¼	17¼	19¼	21¼	23¼	25¼	27¼	29¼	31¼	33¼	35¼	37¼	39¼	41¼	43¼	45¼	47¼	
A=C to F Ells, Tees, Crosses	16½	18	19½	20½	22½	24	26	27½	29	30½	32½	34	35½	37	39	40½	42	
B=C to F Long Radius Ells	24	26½	29	31½	34	36½	39	41½	44	46½	49	51½	54	56½	59	61½	64	
C=C to F 45° Ells	9½	10	10½	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
E=C to F Laterals	34½	37½	40½	43½	47½													
F=C to F Laterals	7½	8	8½	9½	10													
G=F to F Reducers	18	19	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
S=Radius L.R. Ells	21¼	23½	26	28½	30¾	33	35	37½	41	44	47	48	50	53	55	57	60	
R=Radius Std. Ells	13	14	15	16	18	20	21	21½										
Diameter of Flanges	25½	28	30½	33	36	38¼	40¾	43	45¼	47½	50	52¼	54½	57	59¼	61½	65	
Thickness of Flanges	2¼	2⅜	2½	2⅝	2¾	2 13/16	2 15/16	3	3⅛	3¼	3⅜	3 7/16	3 9/16	3 11/16	3¾	3⅞	4	
Thickness of Body	1¼	1⅜	1½	1 9/16	1⅝	1 13/16	1⅞	2	2⅛	2¼	2⅜	2 7/16	2 9/16	2 11/16	2 13/16	2⅞	3	

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY FLANGED FITTINGS

STRAIGHT SIZES



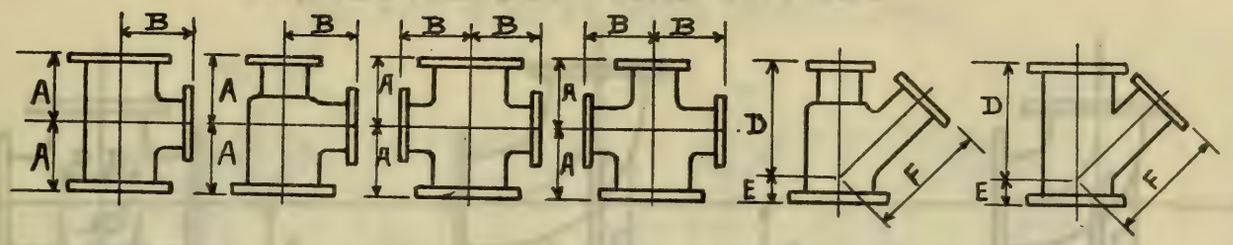
Note—All extra heavy flanges have a 1/16 inch raised face inside of bolt holes. This raised face is included in base to face, center to face and thickness of flange dimensions.

Size (Nominal)	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	15
Internal Diameter	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	13¼	14¼
A=C to F Ells, Tees, Crosses	4	4½	4½	5	5½	6	6½	7	7½	8	8½	9	10	10½	11½	13	15	15½
B=C to F Long Radius Ells	5½	6	6½	7	7½	8½	9	9½	10	10½	11½	12½	13½	14	15	17	18½	19½
C=C to F 45° Ells	2	2½	2½	3	3½	4	4½	5	5½	6	6½	7	8	8½	9	10½	11½	12
E=C to F Laterals	4½	5	5½	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	13½	14½	15
F=C to F Laterals	2	2½	2½	2½	3	3	3½	3½	4	4½	5	5	5½	6	6½	7½	8	8½
G=F to F Reducers								6	6½	7	7½	8	8½	9	9½	10½	11½	12
B=Radius to Ells	4	4½	4½	5½	5½	6½	6½	7	7½	8	8½	9½	10½	11	11½	13	14	14½
R=Radius use Ells	3	3½	3½	4½	4½	5½	5½	6	6½	6½	7	7½	8	8½	9	10½	11½	12½
Diameter of Flanges	4½	5	5½	6½	7	8	8½	9	10	10½	11	12	13	14	15	17	18½	20
Thickness of Flanges	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Thickness of Body	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16
Size (Nominal)	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	15
Internal Diameter	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	13¼	14¼
A=C to F Ells, Tees, Crosses	1½	1¾	2	2½	2½	3	3½	3½	4	4½	5	5½	6	6½	7	8½	9½	10
B=C to F Long Radius Ells	2½	2½	2½	3	3½	4	4½	4½	5	5½	6	6½	7	7½	8	9½	10½	11
C=C to F 45° Ells	1	1	1½	1½	1½	2	2	2	2½	2½	3	3	3½	3½	4	4½	5	5½
E=C to F Laterals	2½	2½	2½	3	3	3½	3½	4	4½	4½	5	5½	6	6½	6½	8	8½	9
F=C to F Laterals																		
G=F to F Reducers	1½	1½	1½	2	2	2½	2½	2½	3	3	3½	3½	4	4	4½	5	5½	6
B=Radius to Ells	2½	2½	2½	3	3	3½	3½	3½	4	4	4½	4½	5	5	5½	6½	7	7½
R=Radius Ells	1½	1½	1½	2	2	2½	2½	2½	3	3	3½	3½	4	4	4½	5½	6	6½
Diameter of Flanges	3½	3½	3½	4	4	4½	4½	4½	5	5	5½	5½	6	6½	7	8	8½	9
Thickness of Flanges	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16
Thickness of Body	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16
Size (Nominal)	16	18	20	22	24	26	28	30	32	34	36	40	42	44	46	48		
Internal Diameter	15¼	17¼	19¼	21¼	23¼	25¼	27¼	29¼	31¼	33¼	35¼	39¼	41¼	43¼	45¼	47¼		
A=C to F Ells, Tees, Crosses	16½	18	19½	21	22½	24	25½	27	28½	30	31½	34½	36	37½	39	40½		
B=C to F Long Radius Ells	20	22	24	26	28	30	32	34	36	38	40	44	46	48	50	52		
C=C to F 45° Ells	11	12	13	14	15	16	17	18	19	20	21	23	24	25	26	27		
E=C to F Laterals	14½	16	17½	19	20½	22	23½	25	26½	28	29½	32½	34	35½	37	38½		
F=C to F Laterals	7½	8	8½	9	9½	10												
G=F to F Reducers	13	14	15	16	17	18	19	20	21	22	23	25	26	27	28	29		
B=Radius to Ells	21½	23	25	27	29	31	33	35	37	39	41	45	47	49	51	53		
R=Radius Long Ells	15	16	17	18	19	20	21	21½										
Diameter of Flanges	25½	28	30½	33	35	38½	40½	43	45½	47½	50	54½	57	59½	62	64½		
Thickness of Flanges	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Thickness of Body	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY FLANGED FITTINGS

SHORT BODY PATTERN



REDUCING TEES AND CROSSES

Size	1" to 16" inclusive											18	20	22	24	26
*Size of Outlets and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings.											12	14	15	16	18
A = C to F of Run												14	15½	16½	17	19
B = C to F of Outlet												17	18½	20	21½	23
Size	28	30	32	34	36	38	40	42	44	46	48					
*Size of Outlets and Smaller	18	20	20	22	24	24	26	28	28	30	32					
A = C to F of Run	19	20½	20½	22	23½	23½	25	26½	26½	27½	29					
B = C to F of Outlet	24	25½	26½	28	29½	30½	31½	33½	34½	35½	37½					

REDUCING LATERALS

Size	1" to 16" inclusive	18	20	22	24	
*Size of Branch and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings.	9	10	10	12	
D = C to F of Run		31	34	37	41	
E = C to F of Run		3	3	3	3	
F = C to F of Branch		32½	36	39	43	

*LONG BODY PATTERNS - are used when outlets are larger than given in the above table, therefor have same dimensions as straight size fittings.

The dimensions of "Reducing Flanged Fittings" are always regulated by the reduction of the outlet.

Fittings Reducing on the Run only, the long body pattern will always be used except Double Sweep Tees, on which the reduced end is always longer than the regular fitting. Dimensions on request.

Bull Heads or Tees having outlets larger than the run, will be the same length center to face of all openings as a tee with all openings of the size of the outlet, for example: a 12 x 12 x 18 inch tee will be governed by the dimensions of the 18 inch long body tee; namely 18 inches center to face of all openings and 36 inches face to face.

Reducing Elbows, carry same center to face dimensions as regular elbows of larger straight size.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY FLANGED FITTINGS

SHORT BODY PATTERN

REDUCING TEES AND CROSSES

Size	1" to 16" inclusive				
Size of Outlets and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings.				
A = C to F of Run					
B = C to F of Outlet					

Size	18	20	22	24	26
Size of Outlets and Smaller	18	18	18	18	18
A = C to F of Run	19	19	19	19	19
B = C to F of Outlet	23	23	23	23	23

Size	1	1¼	1½	2	2½	3	3½	4	5	6	7	8	9	10	11	12	13	14	15	16
Size of Outlets and Smaller	1	1¼	1½	2	2½	3	3½	4	5	6	7	8	9	10	11	12	13	14	15	16
A = C to F of Run	4	4¼	4½	5	5½	6	6½	7	8	9	10	11	12	13	14	15	16	17	18	19
B = C to F of Outlet	4	4¼	4½	5	5½	6	6½	7	8	9	10	11	12	13	14	15	16	17	18	19

REDUCING LATERALS

Size	1" to 16" inclusive				
Size of Outlets and Smaller	All reducing fittings 1" to 16" inclusive, have same center to face dimensions as straight size fittings.				
D = C to F of Run					
E = C to F of Outlet					
F = C to F of Branch					

Size	18	20	22	24	26
Size of Outlets and Smaller	12	12	12	12	12
D = C to F of Run	41	41	41	41	41
E = C to F of Outlet	8	8	8	8	8
F = C to F of Branch	43	43	43	43	43

Reducing Elbows, having same center to face dimensions as regular elbows of larger straight size.

All openings in a tee with an opening of the outlet for reducing to a smaller size will be quartered by the dimensions of the 18 inch long tee; namely 18 inches center to face of all openings and 36 inches face to face.

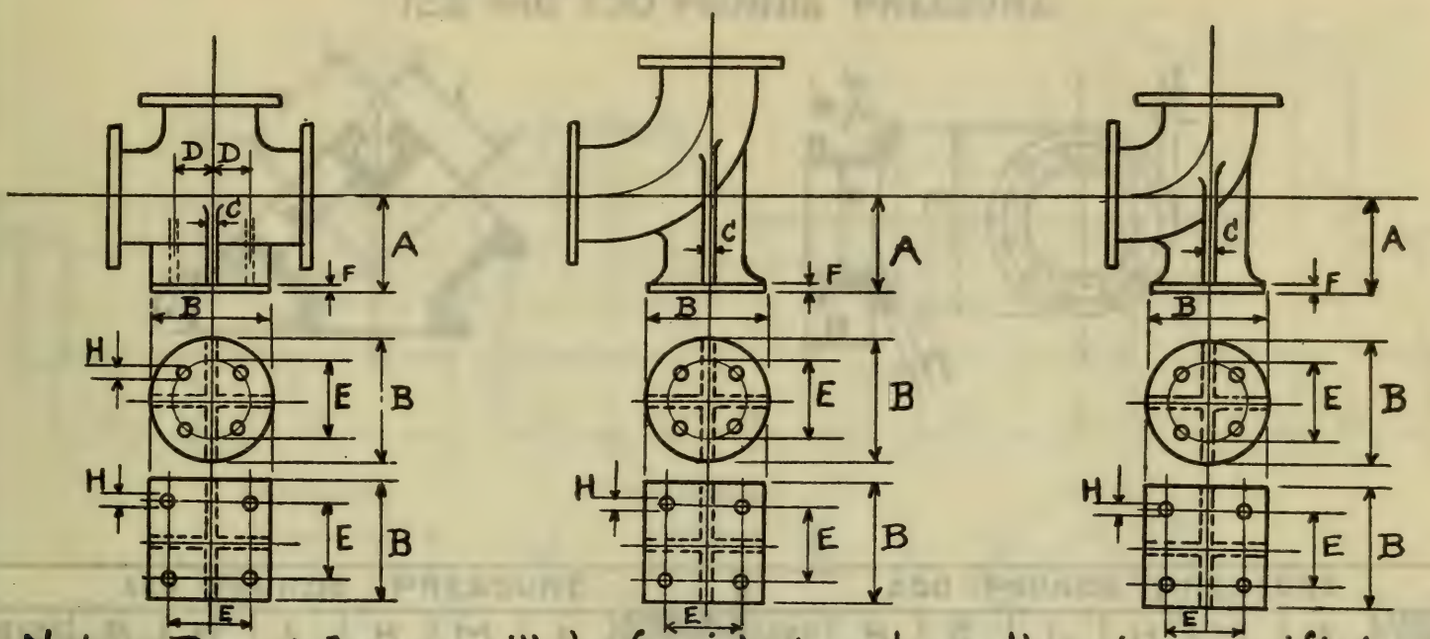
Reducing Tees and Crosses have outlets one size smaller than given in the above table, unless have same dimensions as straight size fittings.

The dimensions of "Reducing Flanged Fittings" are always regulated by the reduction of the outlet fittings figuring on the Run only, the long body pattern will always be used except Double Sweep Tees, on which the reduced end is always longer than the regular fitting. Dimensions on reduced Bull Heads or Tees having outlets larger than the run, will be the same length center to face.

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD BASES FOR TEES, STANDARD AND LONG RADIUS ELLS

50, 125 AND 250 POUND FITTINGS



Note:- Round bases will be furnished unless otherwise specified.

50 AND 125 POUNDS PRESSURE								250 POUNDS PRESSURE							
SIZE	A	B	C	F	H	E	D	SIZE	A	B	C	F	H	E	D
2	5	4½	½	½	½	3⅜		2	5½	5	½	¾	⅝	3¾	
2½	5½	4½	½	½	½	3⅜		2½	6	5	½	¾	⅝	3¾	
3	5¾	5	½	9/16	⅝	3⅞		3	6¼	6	½	13/16	¾	4½	
3½	6¼	5	½	9/16	⅝	3⅞		3½	6¾	6	½	13/16	¾	4½	
4	6½	6	9/16	⅝	¾	4¾		4	7	6½	9/16	⅞	¾	5	
4½	6¾	6	9/16	⅝	¾	4¾		4½	7¼	6½	9/16	⅞	¾	5	
5	7	7	⅝	11/16	¾	5½		5	7½	7½	⅝	1	⅞	5⅞	
6	7½	7	⅝	11/16	¾	5½		6	8	7½	⅝	1	⅞	5⅞	
7	8¼	7	⅝	11/16	¾	5½		7	8¾	7½	⅝	1	⅞	5⅞	
8	8¾	9	¾	15/16	¾	7½		8	9¼	10	¾	1¼	⅞	7⅞	
9	9½	9	¾	15/16	¾	7½		9	10	10	¾	1¼	⅞	7⅞	
10	10	9	¾	15/16	¾	7½		10	10½	10	¾	1¼	⅞	7⅞	
12	10½	11	¾	1	⅞	9½		12	11	12½	¾	1 7/16	⅞	10⅝	
14	13½	11	⅞	1	⅞	9½		14	14	12½	⅞	1 7/16	⅞	10⅝	
15	14	11	⅞	1	⅞	9½		15	14½	12½	⅞	1 7/16	⅞	10⅝	
16	14¾	11	⅞	1	⅞	9½		16	15¼	12½	⅞	1 7/16	⅞	10⅝	
18	15½	13½	⅞	1⅛	⅞	11¾		18	15½	15	⅞	1⅝	1	13	
20	16¾	13½	1	1⅛	⅞	11¾		20	16¾	15	1	1⅝	1	13	
22	17¾	13½	1	1⅛	⅞	11¾		22	17¾	17½	1	1⅛	1⅛	15¼	
24	18¾	13½	1	1⅛	⅞	11¾		24	18¾	17½	1	1⅛	1⅛	15¼	
26	20	16	1	1 3/16	1	14¼									
28	21	16	1	1 3/16	1	14¼									
30	22	16	1⅛	1 3/16	1	14¼	5¼								
32	23	16	1⅛	1 3/16	1	14¼	5¼								
34	24	16	1⅛	1 3/16	1	14¼	5¼								
36	25	16	1⅛	1 3/16	1	14¼	5¼								
38	26	19	1⅛	1¼	1	17	6½								
40	27	19	1⅛	1¼	1	17	6½								
42	28	19	1⅛	1¼	1	17	6½								
44	29	19	1⅛	1¼	1	17	6½								
46	30	19	1⅛	1¼	1	17	6½								
48	31	19	1⅛	1¼	1	17	6½								

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD BASES FOR TEES, STANDARD AND LONG RADIUS ELLS

50, 125 AND 250 POUND FITTINGS

Note:- Round bases will be furnished unless otherwise specified.

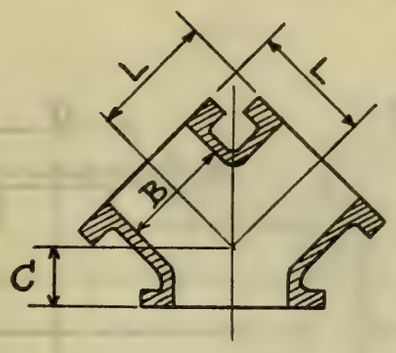
Size	A	B	C	E	F	H	H1	D
2	4½	3	3	1½	1	3½	1½	5
2½	5	4½	3½	1½	1	3½	1½	5½
3	5½	5	4	1½	1	3½	1½	6
3½	6	5½	4½	1½	1	3½	1½	6½
4	6½	6	5	2	1	4½	2	7
4½	6½	6½	5½	2	1	4½	2	7½
5	7	7	6	2	1	5½	2	8
6	7½	8	7	2	1	5½	2	9
7	8½	9	8	2	1	5½	2	10
8	9	10	9	2½	1	7½	2½	11
9	9½	11	10	2½	1	7½	2½	12
10	10	12	11	2½	1	7½	2½	13
12	11½	14	13	3	1	9½	3	15
14	12½	15	14	3	1	9½	3	16
15	13	16	15	3	1	9½	3	17
16	13½	17	16	3½	1	11½	3½	18
18	14½	19	18	3½	1	11½	3½	20
20	15½	21	20	3½	1	11½	3½	22
22	16½	23	22	3½	1	11½	3½	24
24	17½	25	24	3½	1	11½	3½	26

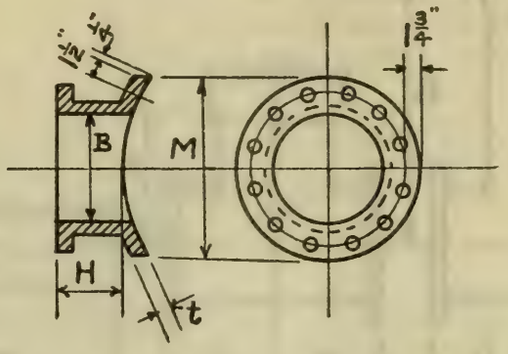
Size	A	B	C	E	F	H	H1	D
2	5	4½	3	1½	1	3½	1½	6½
2½	5½	5	3½	1½	1	3½	1½	7
3	6	5½	4	1½	1	3½	1½	7½
3½	6½	6	4½	1½	1	3½	1½	8
4	7	6½	5	2	1	4½	2	8½
4½	7½	7	5½	2	1	4½	2	9
5	8	7½	6	2	1	5½	2	9½
6	8½	8½	7	2	1	5½	2	10½
7	9½	9½	8	2	1	5½	2	11½
8	10	10½	9	2½	1	7½	2½	12½
9	10½	11½	10	2½	1	7½	2½	13½
10	11	12½	11	2½	1	7½	2½	14½
12	12½	14½	13	3	1	9½	3	16½
14	13½	15½	14	3	1	9½	3	17½
15	14	16½	15	3	1	9½	3	18½
16	14½	17½	16	3½	1	11½	3½	19½
18	15½	19½	18	3½	1	11½	3½	21½
20	16½	21½	20	3½	1	11½	3½	23½
22	17½	23½	22	3½	1	11½	3½	25½
24	18½	25½	24	3½	1	11½	3½	27½

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON FLANGED "Y"S AND NECKS

125 AND 250 POUNDS PRESSURE





125 POUNDS PRESSURE									250 POUNDS PRESSURE								
SIZE	B	C	L	H	M	t	RIVETS SIZE	RIVETS PITCH	SIZE	B	C	L	H	M	t	RIVETS SIZE	RIVETS PITCH
2	2	2 1/2	4 1/2	7 1/2					2	2	2 1/2	5	7 1/2				
2 1/2	2 1/2	2 1/2	5	7 1/2					2 1/2	2 1/2	2 1/2	5 1/2	7 1/2				
3	3	3	5 1/2	7 1/2					3	3	3	6	7 1/2				
3 1/2	3 1/2	3	6	7 1/2					3 1/2	3 1/2	3	6 1/2	7 1/2				
4	4	3	6 1/2	7 1/2	10 1/2	1 1/8	5/8	1 7/8	4	4	3	7	7 1/2	10 1/2	1 1/8	5/8	1 7/8
4 1/2	4 1/2	3 1/2	7	8	11	1 1/8	5/8	1 7/8	4 1/2	4 1/2	3 1/2	7 1/2	8	11	1 1/8	5/8	1 7/8
5	5	3 1/2	7 1/2	8	11 1/2	1 1/4	5/8	1 7/8	5	5	3 1/2	8	8	11 1/2	1 1/4	5/8	1 7/8
6	6	4	8	8 1/2	13	1 3/8	5/8	1 7/8	6	6	4	8 1/2	8 1/2	13	1 3/8	5/8	1 7/8
7	7	4 1/2	8 1/2	9	14	1 3/8	3/4	2 1/4	7	7	4 1/2	9	9	14	1 3/8	3/4	2 1/4
8	8	5	9	9 1/2	15 1/4	1 1/2	3/4	2 1/4	8	8	5	10	9 1/2	15 1/4	1 1/2	3/4	2 1/4
9	9	5	10	10	16 1/4	1 5/8	3/4	2 1/4	9	9	5	10 1/2	10	16 1/4	1 5/8	3/4	2 1/4
10	10	5 1/2	11	11	17 1/2	1 3/4	3/4	2 1/4	10	10	5 1/2	11 1/2	11	17 1/2	1 3/4	3/4	2 1/4
12	12	6	12	12	19 1/2	1 7/8	7/8	2 5/8	12	12	6	13	12	19 1/2	1 7/8	7/8	2 5/8
14	14	6 1/2	14	13	21 1/4	2	7/8	2 5/8	14	13 1/4	6 1/2	15	13	21 1/4	2	7/8	2 5/8
15	15	6 1/2	14 1/2	13	22 1/2	2	7/8	2 5/8	15	14 1/4	6 1/2	15 1/2	13	22 1/2	2	7/8	2 5/8
16	16	7 1/2	15	13 1/2	23 1/2	2 1/8	7/8	2 5/8	16	15 1/4	7 1/2	16 1/2	13 1/2	23 1/2	2 1/8	7/8	2 5/8
18	18	8	16 1/2	14	25 1/2	2 1/4	1	3	18	17 1/4	8	18	14	25 1/2	2 1/4	1	3
20	20	8 1/2	18	15	27 3/4	2 1/4	1	3	20	19 1/4	8 1/2	19 1/2	15	27 3/4	2 1/4	1	3
22	22	9 1/2	20	15 1/2	30	2 3/8	1	3	22	21 1/4	9 1/2	20 1/2	15 1/2	30	2 3/8	1	3
24	24	10	22	16	32	2 3/8	1	3	24	23 1/4	10	22 1/2	16	32	2 3/8	1	3
26	26	11	23	16 1/2					26	25 1/4	11	24	16 1/2				
28	28	11 1/2	24	17					28	27 1/4	11 1/2	26	17				
30	30	12 1/2	25	17 1/2					30	29 1/4	12 1/2	27 1/2	17 1/2				
32	32	13	26	18					32	31 1/4	13	29	18				
34	34	13 1/2	27	18					34	33 1/4	13 1/2	30 1/2	18				
36	36	14	28	18					36	35 1/4	14	32 1/2	18				

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON FLANGED Y's AND NECKS

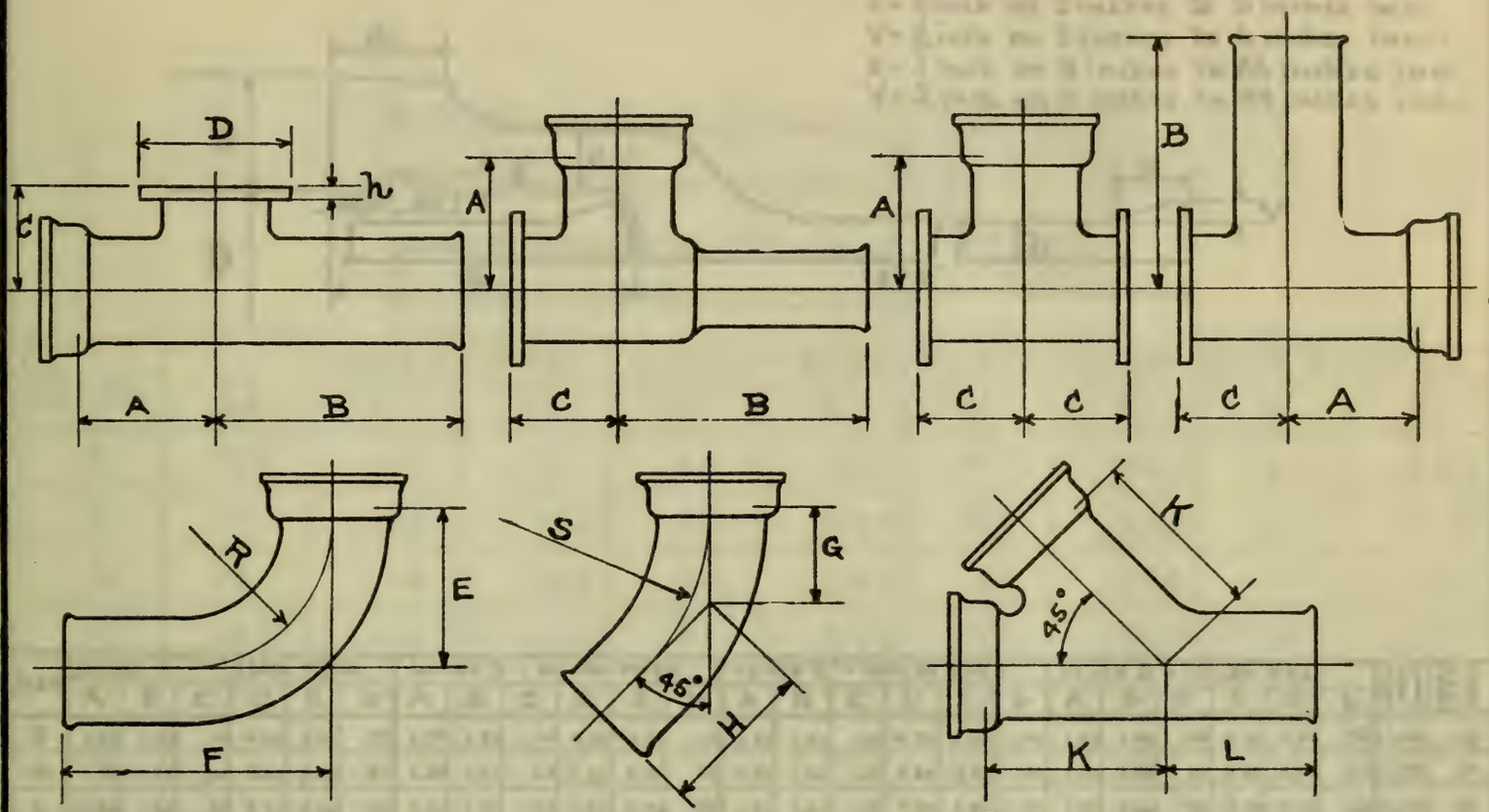
125 AND 250 POUNDS PRESSURE

SIZE	B	C	L	H	M	t	RIVETS SIZE	RIVETS PITCH
2	2	4¼	7½					
2½	2½	5	11					
3	3	5½	12					
3½	3½	6	13					
4	4	6½	14	10½	7½	⅝	⅛	1⅝
4½	4½	7	15	11	8	⅝	⅛	1⅝
5	5	7½	16	11½	8	⅝	⅛	1⅝
6	6	8	17	13	9	¾	⅛	2
7	7	8½	18	14	10	¾	⅛	2
8	8	9	19	15	11	¾	⅛	2
9	9	10	20	16	11½	¾	⅛	2
10	10	11	21	17	12	¾	⅛	2
12	12	12	23	19	13½	⅞	⅛	2
14	14	14	25	21	15	1	⅛	2
15	15	14½	26	22	15½	1	⅛	2
16	16	15	27	23	16	1	⅛	2
18	18	16	29	25	17	1	⅛	2
20	20	18	32	28	19	1	⅛	2
22	22	20	34	30	20	1	⅛	2
24	24	22	36	32	21	1	⅛	2
26	26	11	19½					
28	28	11½	17					
30	30	12½	25	17½				
32	32	13	26	18				
34	34	13½	27	18				
36	36	14	28	18				

SIZE	B	C	L	H	M	t	RIVETS SIZE	RIVETS PITCH
2	2	5	7½					
2½	2½	5½	8½					
3	3	6	9					
3½	3½	6½	10					
4	4	7	11	7½	4½	⅝	⅛	1⅝
4½	4½	7½	12	8	5	⅝	⅛	1⅝
5	5	8	13	8	5	¾	⅛	2
6	6	8½	14	8½	5½	¾	⅛	2
7	7	9	15	9	6	¾	⅛	2
8	8	9½	16	9½	6½	¾	⅛	2
9	9	10	17	10	6½	¾	⅛	2
10	10	10½	18	10½	7	¾	⅛	2
12	12	11½	20	12	8	⅞	⅛	2
14	13¾	13	22	13½	9	1	⅛	2
15	14¾	13½	23	14	9½	1	⅛	2
16	15¾	14	24	15	10	1	⅛	2
18	17¾	15	26	16½	11	1	⅛	2
20	19¾	16	28	18	12	1	⅛	2
22	21¾	17	30	19½	13	1	⅛	2
24	23¾	18	32	21	14	1	⅛	2
26	25¾	19	34	22½	15	1	⅛	2
28	27¾	20	36	24	16	1	⅛	2
30	29¾	21	38	25½	17	1	⅛	2
32	31¾	22	40	27	18	1	⅛	2
34	33¾	23	42	28½	19	1	⅛	2
36	35¾	24	44	30	20	1	⅛	2

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON BELL, SPIGOT AND FLANGED FITTINGS.



NOTE:- FOR DIMENSIONS OF BELL AND SPIGOT SEE TABLE NO. 17
IN LAYING OUT WATER LINES, IT IS ADVISABLE TO MAKE ALL TEES AND CROSSES WITH BELL ENDS; ELBOWS WITH BELL AND SPIGOT ENDS.

STRAIGHT SIZE FITTINGS

SIZE	D	A	B	C	E	F	G	H	K	L	R	S	h
3	7 1/2	10	22	5 1/2	16	24	9 15/16	15 16/16	9 1/2	10 1/2	16	24	3/4
4	9	11	23	6 1/2	16	24	9 15/16	15 15/16	10 1/2	11 1/2	16	24	15/16
6	11	12	24	8	16	24	9 15/16	15 15/16	13	13	16	24	1
8	13 1/2	13	25	9	16	26	9 15/16	15 15/16	16	14	16	24	1 1/8
10	16	14	26	11	16	28	9 15/16	15 15/16	18 1/2	15 1/2	16	24	1 3/16
12	19	15	27	12	16	28	9 15/16	15 15/16	21 1/2	15 1/2	16	24	1 1/4
14	21	16	28	14	18	30	14 15/16	20 15/16	24	16	18	36	1 3/8
16	23 1/2	17	29	15	24	36	14 15/16	20 15/16	31	17 1/2	24	36	1 7/16
18	25	18	30	16 1/2	24	36	14 15/16	20 15/16	34	18	24	36	1 9/16
20	27 1/2	19	31	18	24	36	19 7/8	25 7/8	37	18 3/4	24	48	1 11/16
24	32	21	33	22	30	42	24 7/8	30 7/8			30	60	1 7/8
30	38 3/4	26	43	25	36	48	24 7/8	30 7/8			36	60	2 1/8
36	46	29	46	28	48	60	37 1/4	37 1/4			48	90	2 3/8
42	53	32	49	31	48	60	37 1/4	37 1/4			48	90	2 5/8
48	59 1/2	35	52	34	54	66	37 1/4	37 1/4			54	90	2 3/4

REDUCING TEES

SIZES	A	B	C
30 x 6	13	25	23
30 x 8	14	26	23
30 x 10	15	27	23
30 x 12	15	27	23
30 x 14	18	30	23
30 x 16	19	31	23
30 x 18	20	34	23
30 x 20	21	36	23
30 x 24	23	38	25
36 x 8	14	26	26
36 x 10	15	27	26
36 x 12	16	28	26
36 x 14	18	30	26
36 x 16	19	31	26
36 x 18	20	34	26
36 x 20	21	36	26
36 x 24	23	38	26
36 x 30	26	43	28

SIZES	A	B	C
42 x 12	16	28	30
42 x 14	18	30	30
42 x 16	19	31	30
42 x 18	20	34	30
42 x 20	21	36	30
42 x 24	23	38	30
42 x 30	26	43	31
42 x 36	29	46	31
48 x 12	17	29	34
48 x 14	18	30	34
48 x 16	19	31	34
48 x 18	20	34	34
48 x 20	21	36	34
48 x 24	23	38	34
48 x 30	26	43	34
48 x 36	29	46	34
48 x 42	32	49	34

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON BELL, SPIGOT AND FLANGED FITTINGS.

Note – For dimensions of bell and spigot see table No 12
In laying out water lines, it is advisable to place all tees and crosses
with bell ends; elbows with bell and spigot ends.

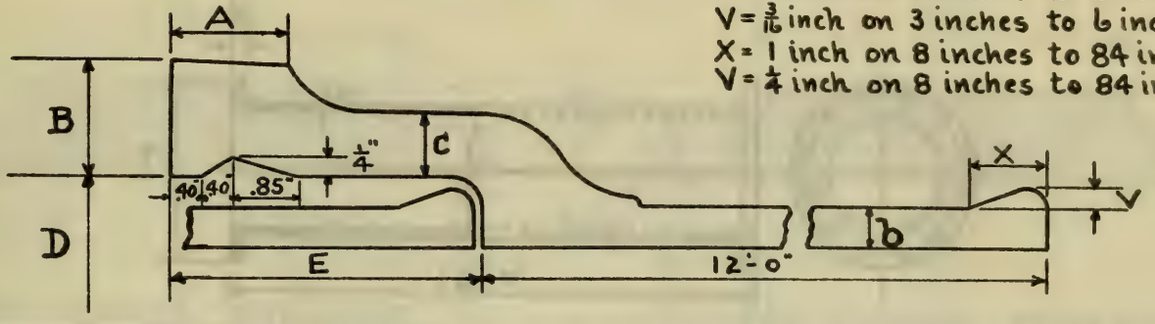
Size	D	A	B	C	E	F	G	H	K	L	M	N	O	P	Q	R	S	T
3	7½	10	22	7	16	24	6	12	15	18	9	12	15	18	21	24	16	24
4	9	11	23	9½	16	24	6½	12	15½	18½	9½	12½	15½	18½	21½	24	16	24
6	11	12	24	8	16	24	7	12	16	19	10	13	16	19	22	24	16	24
8	13½	13	25	9	16	24	7½	12	16½	19½	10½	13½	16½	19½	22½	24	16	24
10	16	14	26	11	16	24	8	12	17	20	11	14	17	20	23	24	16	24
12	17	15	27	12	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
14	21	16	28	14	20	30	9	15	18	21	12	15	18	21	24	30	20	30
16	23½	17	29	15	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
18	25	18	30	16½	24	36	10	18	19	22	13	16	19	22	25	30	20	30
20	27½	19	31	18	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
24	32	21	33	22	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
30	38½	25	43	25½	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
36	46	28	44	28	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
42	52	31	44	31	48	60	14½	30	23½	26½	17½	20½	23½	26½	29½	36	24	36
48	57½	35	42	34	54	66	15½	30	24½	27½	18½	21½	24½	27½	30½	36	24	36

Size	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	R	S	T
3 × 3	10	22	7	3	16	24	6	12	15	18	9	12	15	18	21	24	16	24
4 × 3	11	23	8½	3	16	24	6½	12	15½	18½	9½	12½	15½	18½	21½	24	16	24
4 × 4	11	23	9½	4	16	24	6½	12	15½	18½	9½	12½	15½	18½	21½	24	16	24
6 × 3	12	24	8	3	16	24	7	12	16	19	10	13	16	19	22	24	16	24
6 × 4	12	24	8	4	16	24	7	12	16	19	10	13	16	19	22	24	16	24
6 × 6	12	24	8	6	16	24	7	12	16	19	10	13	16	19	22	24	16	24
8 × 3	13	25	9	3	16	24	7½	12	16½	19½	10½	13½	16½	19½	22½	24	16	24
8 × 4	13	25	9	4	16	24	7½	12	16½	19½	10½	13½	16½	19½	22½	24	16	24
8 × 6	13	25	9	6	16	24	7½	12	16½	19½	10½	13½	16½	19½	22½	24	16	24
8 × 8	13	25	9	8	16	24	7½	12	16½	19½	10½	13½	16½	19½	22½	24	16	24
10 × 3	14	26	11	3	16	24	8	12	17	20	11	14	17	20	23	24	16	24
10 × 4	14	26	11	4	16	24	8	12	17	20	11	14	17	20	23	24	16	24
10 × 6	14	26	11	6	16	24	8	12	17	20	11	14	17	20	23	24	16	24
10 × 8	14	26	11	8	16	24	8	12	17	20	11	14	17	20	23	24	16	24
10 × 10	14	26	11	10	16	24	8	12	17	20	11	14	17	20	23	24	16	24
12 × 3	15	27	12	3	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
12 × 4	15	27	12	4	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
12 × 6	15	27	12	6	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
12 × 8	15	27	12	8	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
12 × 10	15	27	12	10	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
12 × 12	15	27	12	12	16	24	8½	12	17½	20½	11½	14½	17½	20½	23½	24	16	24
14 × 3	16	28	14	3	20	30	9	15	18	21	12	15	18	21	24	30	20	30
14 × 4	16	28	14	4	20	30	9	15	18	21	12	15	18	21	24	30	20	30
14 × 6	16	28	14	6	20	30	9	15	18	21	12	15	18	21	24	30	20	30
14 × 8	16	28	14	8	20	30	9	15	18	21	12	15	18	21	24	30	20	30
14 × 10	16	28	14	10	20	30	9	15	18	21	12	15	18	21	24	30	20	30
14 × 12	16	28	14	12	20	30	9	15	18	21	12	15	18	21	24	30	20	30
14 × 14	16	28	14	14	20	30	9	15	18	21	12	15	18	21	24	30	20	30
16 × 3	17	29	15	3	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 4	17	29	15	4	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 6	17	29	15	6	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 8	17	29	15	8	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 10	17	29	15	10	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 12	17	29	15	12	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 14	17	29	15	14	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
16 × 16	17	29	15	16	24	36	9½	18	18½	21½	12½	15½	18½	21½	24½	30	20	30
18 × 3	18	30	16½	3	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 4	18	30	16½	4	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 6	18	30	16½	6	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 8	18	30	16½	8	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 10	18	30	16½	10	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 12	18	30	16½	12	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 14	18	30	16½	14	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 16	18	30	16½	16	24	36	10	18	19	22	13	16	19	22	25	30	20	30
18 × 18	18	30	16½	18	24	36	10	18	19	22	13	16	19	22	25	30	20	30
20 × 3	19	31	18	3	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 4	19	31	18	4	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 6	19	31	18	6	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 8	19	31	18	8	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 10	19	31	18	10	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 12	19	31	18	12	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 14	19	31	18	14	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 16	19	31	18	16	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 18	19	31	18	18	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
20 × 20	19	31	18	20	24	36	10½	18	19½	22½	13½	16½	19½	22½	25½	30	20	30
24 × 3	21	33	22	3	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 4	21	33	22	4	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 6	21	33	22	6	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 8	21	33	22	8	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 10	21	33	22	10	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 12	21	33	22	12	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 14	21	33	22	14	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 16	21	33	22	16	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 18	21	33	22	18	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 20	21	33	22	20	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
24 × 24	21	33	22	24	30	42	11½	24	20½	23½	14½	17½	20½	23½	26½	30	20	30
30 × 3	25	43	25½	3	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 4	25	43	25½	4	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 6	25	43	25½	6	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 8	25	43	25½	8	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 10	25	43	25½	10	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 12	25	43	25½	12	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 14	25	43	25½	14	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 16	25	43	25½	16	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 18	25	43	25½	18	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 20	25	43	25½	20	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 24	25	43	25½	24	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
30 × 30	25	43	25½	28	36	48	12½	24	21½	24½	15½	18½	21½	24½	27½	30	20	30
36 × 3	28	44	28	3	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 4	28	44	28	4	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 6	28	44	28	6	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 8	28	44	28	8	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 10	28	44	28	10	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 12	28	44	28	12	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 14	28	44	28	14	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 16	28	44	28	16	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 18	28	44	28	18	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 20	28	44	28	20	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 24	28	44	28	24	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 30	28	44	28	28	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36
36 × 36	28	44	28	32	48	60	13½	30	22½	25½	16½	19½	22½	25½	28½	36	24	36

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD DIMENSIONS OF BELL AND SPIGOT PIPE

X = $\frac{3}{4}$ inch on 3 inches to 6 inches inc.
V = $\frac{3}{16}$ inch on 3 inches to 6 inches inc.
X = 1 inch on 8 inches to 84 inches inc.
V = $\frac{1}{4}$ inch on 8 inches to 84 inches inc.



SIZE	CLASS "A" = 43 LBS. PRES.						CLASS "B" = 86 LBS. PRES.						CLASS "C" = 130 LBS. PRES.						CLASS "D" = 173 LBS. PRES.						LEAD PER JOINT	HEMP PER JOINT
	A	B	C	D	E	b	A	B	C	D	E	b	A	B	C	D	E	b	A	B	C	D	E	b		
3	1.25	1.30	.65	4.60	3.50	.39	1.25	1.30	.65	4.76	3.50	.42	1.25	1.30	.65	4.76	3.50	.45	1.25	1.30	.65	4.76	3.50	.48	6.00	.18
4	1.50	1.30	.65	5.60	3.50	.42	1.50	1.30	.65	5.80	3.50	.45	1.50	1.30	.65	5.80	3.50	.48	1.50	1.30	.65	5.80	3.50	.52	7.50	.21
6	1.50	1.40	.70	7.70	3.50	.44	1.50	1.40	.70	7.90	3.50	.48	1.50	1.40	.70	7.90	3.50	.51	1.50	1.40	.70	7.90	3.50	.55	10.25	.31
8	1.50	1.50	.75	9.85	4.00	.46	1.50	1.50	.75	9.85	4.00	.51	1.50	1.50	.75	10.10	4.00	.56	1.50	1.50	.75	10.10	4.00	.60	13.25	.44
10	1.50	1.50	.75	11.90	4.00	.50	1.50	1.50	.75	11.90	4.00	.57	1.50	1.60	.80	12.20	4.00	.62	1.50	1.60	.80	12.20	4.00	.68	16.00	.53
12	1.50	1.60	.80	14.00	4.00	.54	1.50	1.60	.80	14.00	4.00	.62	1.50	1.70	.85	14.30	4.00	.68	1.50	1.70	.85	14.30	4.00	.75	19.00	.61
14	1.50	1.70	.85	16.10	4.00	.57	1.50	1.70	.85	16.10	4.00	.66	1.50	1.80	.90	16.45	4.00	.74	1.50	1.80	.90	16.45	4.00	.82	22.00	.81
16	1.75	1.80	.90	18.40	4.00	.60	1.75	1.80	.90	18.40	4.00	.70	1.75	1.90	1.00	18.80	4.00	.80	1.75	1.90	1.00	18.80	4.00	.89	30.00	.94
18	1.75	1.90	.95	20.50	4.00	.64	1.75	1.90	.95	20.50	4.00	.75	1.75	2.10	1.05	20.92	4.00	.87	1.75	2.10	1.05	20.92	4.00	.96	33.80	1.00
20	1.75	2.00	1.00	22.60	4.00	.67	1.75	2.00	1.00	22.60	4.00	.80	1.75	2.30	1.15	23.06	4.00	.92	1.75	2.30	1.15	23.06	4.00	1.03	37.00	1.25
24	2.00	2.10	1.05	26.80	4.00	.76	2.00	2.10	1.05	26.80	4.00	.89	2.00	2.50	1.25	27.32	4.00	1.04	2.00	2.50	1.25	27.32	4.00	1.16	44.00	1.50
30	2.00	2.30	1.15	32.74	4.50	.88	2.00	2.30	1.15	33.00	4.50	1.03	2.00	2.60	1.32	33.40	4.50	1.20	2.00	3.00	1.50	33.74	4.50	1.37	54.25	2.06
36	2.00	2.50	1.25	38.96	4.50	.99	2.00	2.80	1.40	39.30	4.50	1.15	2.00	3.10	1.60	39.70	4.50	1.36	2.00	3.40	1.80	40.16	4.50	1.58	64.75	3.00
42	2.00	2.80	1.40	45.20	5.00	1.10	2.00	3.00	1.50	45.50	5.00	1.28	2.00	3.40	1.75	46.10	5.00	1.54	2.00	3.80	1.95	46.58	5.00	1.78	75.25	3.62
48	2.00	3.00	1.50	51.50	5.00	1.26	2.00	3.30	1.65	51.80	5.00	1.42	2.00	3.80	1.95	52.40	5.00	1.71	2.00	4.20	2.20	52.98	5.00	1.96	85.50	4.37
54	2.25	3.20	1.60	57.66	5.50	1.35	2.25	3.60	1.80	58.10	5.50	1.55	2.25	4.00	2.15	58.80	5.50	1.90	2.25	4.40	2.45	59.40	5.50	2.23	97.60	6.25
60	2.25	3.40	1.70	63.80	5.50	1.39	2.25	3.70	1.90	64.40	5.50	1.67	2.25	4.20	2.25	65.20	5.50	2.00	2.25	4.70	2.60	65.82	5.50	2.38	108.30	8.25
72	2.25	3.80	1.87	76.59	5.50	1.62	2.25	4.20	2.20	77.25	5.50	1.95	2.25	4.60	2.64	78.13	5.50	2.39							131.25	12.50
84	2.50	4.10	2.10	88.79	5.50	1.72	2.50	4.50	2.60	89.79	5.50	2.22													152.00	15.00

PITTSBURGH PIPING & EQUIPMENT CO.

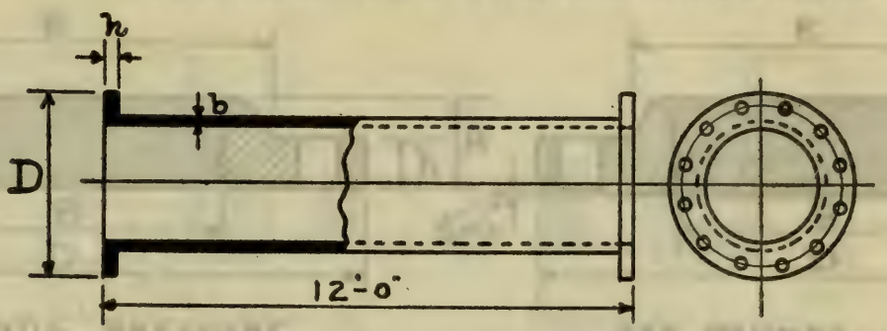
STANDARD DIMENSIONS OF BELL AND SPIGOT PIPE

X = ¾ inch on 3 inches to 6 inches inc.
V = 1/16 inch on 3 inches to 6 inches inc.
X = 1 inch on 8 inches to 84 inches inc.
V = ¾ inch on 8 inches to 84 inches inc.

Size	CLASS "A" — 43 LBS. PRESS.						CLASS "B" — 86 LBS. PRESS.						CLASS "C" — 150 LBS. PRESS.						CLASS "D" — 172 LBS. PRESS.						Size
	A	B	C	D	E	b	A	B	C	D	E	b	A	B	C	D	E	b	A	B	C	D	E	b	
3	1.25	.56	4.00	3.00	7.00	.44	1.25	.56	4.00	3.00	7.00	.44	1.25	.56	4.00	3.00	7.00	.44	1.25	.56	4.00	3.00	7.00	.44	3
4	1.50	.62	5.00	3.00	8.00	.44	1.50	.62	5.00	3.00	8.00	.44	1.50	.62	5.00	3.00	8.00	.44	1.50	.62	5.00	3.00	8.00	.44	4
6	1.50	.70	7.00	3.00	10.00	.44	1.50	.70	7.00	3.00	10.00	.44	1.50	.70	7.00	3.00	10.00	.44	1.50	.70	7.00	3.00	10.00	.44	6
8	1.50	.75	9.00	3.00	12.00	.44	1.50	.75	9.00	3.00	12.00	.44	1.50	.75	9.00	3.00	12.00	.44	1.50	.75	9.00	3.00	12.00	.44	8
10	1.50	.75	11.00	3.00	14.00	.44	1.50	.75	11.00	3.00	14.00	.44	1.50	.75	11.00	3.00	14.00	.44	1.50	.75	11.00	3.00	14.00	.44	10
12	1.50	.80	13.00	3.00	16.00	.44	1.50	.80	13.00	3.00	16.00	.44	1.50	.80	13.00	3.00	16.00	.44	1.50	.80	13.00	3.00	16.00	.44	12
14	1.50	.85	15.00	3.00	18.00	.44	1.50	.85	15.00	3.00	18.00	.44	1.50	.85	15.00	3.00	18.00	.44	1.50	.85	15.00	3.00	18.00	.44	14
16	1.50	.90	17.00	3.00	20.00	.44	1.50	.90	17.00	3.00	20.00	.44	1.50	.90	17.00	3.00	20.00	.44	1.50	.90	17.00	3.00	20.00	.44	16
18	1.75	.95	19.00	3.00	22.00	.44	1.75	.95	19.00	3.00	22.00	.44	1.75	.95	19.00	3.00	22.00	.44	1.75	.95	19.00	3.00	22.00	.44	18
20	1.75	1.00	21.00	3.00	24.00	.44	1.75	1.00	21.00	3.00	24.00	.44	1.75	1.00	21.00	3.00	24.00	.44	1.75	1.00	21.00	3.00	24.00	.44	20
24	2.00	1.10	25.00	3.00	28.00	.44	2.00	1.10	25.00	3.00	28.00	.44	2.00	1.10	25.00	3.00	28.00	.44	2.00	1.10	25.00	3.00	28.00	.44	24
30	2.00	1.20	31.00	3.00	34.00	.44	2.00	1.20	31.00	3.00	34.00	.44	2.00	1.20	31.00	3.00	34.00	.44	2.00	1.20	31.00	3.00	34.00	.44	30
36	2.00	1.25	37.00	3.00	40.00	.44	2.00	1.25	37.00	3.00	40.00	.44	2.00	1.25	37.00	3.00	40.00	.44	2.00	1.25	37.00	3.00	40.00	.44	36
42	2.00	1.40	43.00	3.00	46.00	.44	2.00	1.40	43.00	3.00	46.00	.44	2.00	1.40	43.00	3.00	46.00	.44	2.00	1.40	43.00	3.00	46.00	.44	42
48	2.00	1.50	49.00	3.00	52.00	.44	2.00	1.50	49.00	3.00	52.00	.44	2.00	1.50	49.00	3.00	52.00	.44	2.00	1.50	49.00	3.00	52.00	.44	48
54	2.00	1.60	55.00	3.00	58.00	.44	2.00	1.60	55.00	3.00	58.00	.44	2.00	1.60	55.00	3.00	58.00	.44	2.00	1.60	55.00	3.00	58.00	.44	54
60	2.00	1.70	61.00	3.00	64.00	.44	2.00	1.70	61.00	3.00	64.00	.44	2.00	1.70	61.00	3.00	64.00	.44	2.00	1.70	61.00	3.00	64.00	.44	60
72	2.00	1.80	73.00	3.00	76.00	.44	2.00	1.80	73.00	3.00	76.00	.44	2.00	1.80	73.00	3.00	76.00	.44	2.00	1.80	73.00	3.00	76.00	.44	72
84	2.00	1.90	85.00	3.00	88.00	.44	2.00	1.90	85.00	3.00	88.00	.44	2.00	1.90	85.00	3.00	88.00	.44	2.00	1.90	85.00	3.00	88.00	.44	84

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD FLANGED CAST IRON PIPE FOR WATER



SIZE	D	CLASS A – 43 LBS.		CLASS B – 86 LBS.		CLASS C – 130 LBS.		CLASS D – 173 LBS.	
		b	h	b	h	b	h	b	h
3	7½	.39	.71	.42	.755	.45	.800	.48	.845
4	9	.42	.755	.45	.800	.48	.845	.52	.905
6	11	.44	.785	.48	.845	.51	.890	.55	.950
8	13½	.46	.815	.51	.890	.56	.965	.60	1.025
10	16	.50	.875	.57	.980	.62	1.055	.68	1.145
12	19	.54	.935	.62	1.055	.68	1.145	.75	1.250
14	21	.57	.980	.66	1.115	.74	1.235	.82	1.355
16	23½	.60	1.025	.70	1.175	.80	1.325	.89	1.460
18	25	.64	1.085	.75	1.250	.87	1.430	.96	1.565
20	27½	.67	1.130	.80	1.325	.92	1.505	1.03	1.670
24	32	.76	1.265	.89	1.460	1.04	1.685	1.16	1.865
30	38¾	.88	1.445	1.03	1.670	1.20	1.925	1.37	2.180
36	46	.99	1.610	1.15	1.850	1.36	2.165	1.58	2.495
40	50¾	1.06	1.715	1.23	1.970	1.48	2.345	1.72	2.705
42	53	1.10	1.775	1.28	2.045	1.54	2.435	1.78	2.795
48	59½	1.26	2.015	1.42	2.255	1.71	2.690	1.96	3.065

PITTSBURGH PIPING & EQUIPMENT CO.

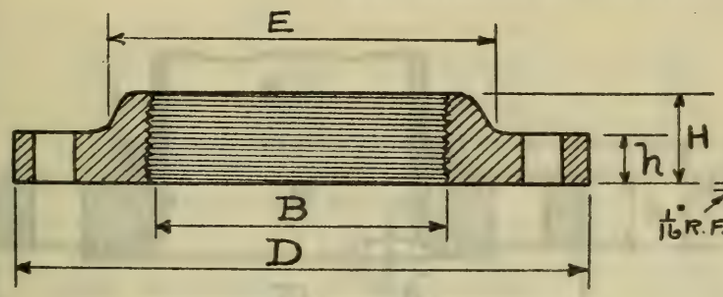
STANDARD FLANGED CAST IRON PIPE FOR WATER

SIZE	D	CLASS A – 43 LBS.		CLASS B – 86 LBS.		CLASS C – 130 LBS.		CLASS D – 172 LBS.	
		b	h	b	h	b	h	b	h
3	7½	.39	.71	.42	.752	.45	.800	.48	.848
4	9	.42	.752	.45	.800	.48	.848	.52	.905
6	11	.44	.785	.48	.845	.51	.890	.55	.950
8	13½	.46	.815	.51	.890	.54	.945	.60	1.025
10	16	.50	.875	.57	.980	.62	1.055	.68	1.145
12	19	.54	.935	.62	1.055	.68	1.145	.75	1.250
14	21	.57	.980	.66	1.115	.74	1.235	.82	1.355
16	23½	.60	1.025	.70	1.175	.80	1.325	.89	1.460
18	25	.64	1.085	.75	1.250	.87	1.430	.96	1.585
20	27½	.67	1.130	.80	1.325	.92	1.505	1.03	1.690
24	32	.76	1.285	.87	1.450	1.04	1.685	1.16	1.895
30	38¾	.88	1.495	1.03	1.720	1.20	1.975	1.37	2.180
36	46	.99	1.690	1.15	1.920	1.36	2.185	1.58	2.495
40	50¾	1.06	1.815	1.23	2.050	1.46	2.345	1.72	2.705
42	53	1.10	1.875	1.28	2.045	1.54	2.435	1.78	2.795
48	59½	1.26	2.015	1.42	2.255	1.71	2.690	1.96	3.085

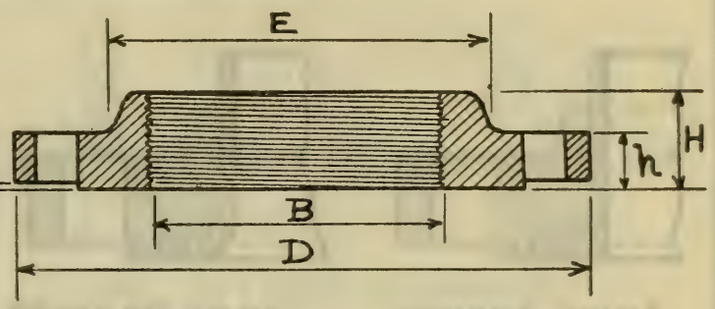
PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON, CAST OR ROLLED STEEL SCREWED FLANGES

125 AND 250 POUNDS PRESSURE



125 POUNDS PRESSURE



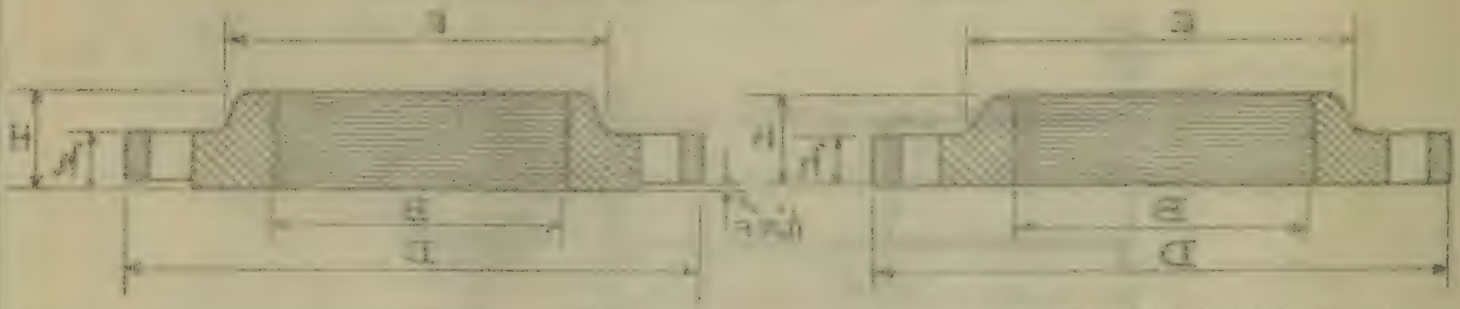
250 POUNDS PRESSURE

125 POUNDS PRESSURE									250 POUNDS PRESSURE								
SIZE	D	B	CAST IRON			STEEL			SIZE	D	B	CAST IRON			STEEL		
			E	H	h	E	H	h				E	H	h	E	H	h
1	4	1 3/16	1 7/8	7/8	7/16	1 7/8	7/8	7/16	1	4 1/2	1 3/16	2	1	11/16	2	1	9/16
1 1/4	4 1/2	1 1/2	2 1/4	1	1/2	2 1/4	1	1/2	1 1/4	5	1 1/2	2 3/8	1 1/8	3/4	2 3/8	1 1/8	5/8
1 1/2	5	1 3/4	2 1/2	1 1/16	9/16	2 1/2	1	9/16	1 1/2	6	1 3/4	2 3/4	1 1/4	13/16	2 3/4	1 1/4	3/4
2	6	2 7/32	3	1 1/8	5/8	3 1/8	1	5/8	2	6 1/2	2 7/32	3 1/4	1 3/8	7/8	3 3/8	1 3/8	7/8
2 1/2	7	2 21/32	3 1/2	1 3/16	11/16	3 5/8	1 1/16	11/16	2 1/2	7 1/2	2 21/32	3 3/4	1 7/16	1	4 1/16	1 7/16	1
3	7 1/2	3 1/4	4 1/4	1 1/4	3/4	4 5/16	1 1/8	3/4	3	8 1/4	3 1/4	4 1/2	1 9/16	1 1/8	4 11/16	1 9/16	1
3 1/2	8 1/2	3 25/32	4 3/4	1 5/16	13/16	4 7/8	1 3/16	13/16	3 1/2	9	3 25/32	5 1/4	1 5/8	1 3/16	5 5/16	1 5/8	1 1/8
4	9	4 1/4	5 1/4	1 3/8	15/16	5 3/8	1 3/16	15/16	4	10	4 1/4	5 1/2	1 3/4	1 1/4	5 13/16	1 3/4	1 1/8
4 1/2	9 1/4	4 25/32	5 3/4	1 7/16	15/16	5 13/16	1 1/4	15/16	4 1/2	10 1/2	4 25/32	6	1 13/16	1 5/16	6 1/4	1 13/16	1 1/4
5	10	5 11/32	6 3/8	1 1/2	15/16	6 7/16	1 5/16	15/16	5	11	5 11/32	6 5/8	1 7/8	1 3/8	6 13/16	1 7/8	1 1/4
6	11	6 5/16	7 1/2	1 9/16	1	7 9/16	1 7/16	1	6	12 1/2	6 5/16	7 3/4	2	1 7/16	7 7/8	2	1 1/4
7	12 1/2	7 3/8	8 1/2	1 5/8	1 1/16	8 5/8	1 1/2	1 1/16	7	14	7 3/8	8 1/8	2 1/16	1 1/2	9 1/8	2 1/16	1 5/16
8	13 1/2	8 3/8	9 3/4	1 3/4	1 1/8	9 11/16	1 5/8	1 1/8	8	15	8 3/8	10 1/8	2 3/16	1 5/8	10 1/8	2 3/16	1 3/8
9	15	9 3/8	10 7/8	1 7/8	1 1/8	10 5/8	1 3/4	1 1/8	9	16 1/4	9 3/8	11 1/8	2 1/4	1 3/4	11 3/16	2 1/4	1 7/16
10	16	10 1/2	12	2	1 3/16	11 15/16	1 7/8	1 3/16	10	17 1/2	10 1/2	12 1/4	2 3/8	1 7/8	12 9/16	2 3/8	1 1/2
12	19	12 1/2	14 1/4	2 1/8	1 1/4	14 1/8	2 1/16	1 1/4	12	20 1/2	12 1/2	14 1/2	2 1/2	2	14 5/8	2 9/16	1 5/8
14	21	13 11/16	15 1/2	2 1/4	1 3/8	15 7/16	2 3/16	1 3/8	14	23	13 11/16	15 3/4	2 5/8	2 1/8	15 13/16	2 11/16	1 3/4
15	22 1/4	14 11/16	16 1/2	2 3/8	1 3/8	16 1/2	2 3/8	1 3/8	15	24 1/2	14 11/16	16 7/8	2 3/4	2 3/16	17 3/16	2 13/16	1 13/16
16	23 1/2	15 11/16	17 5/8	2 1/2	1 7/16	17 5/8	2 1/2	1 7/16	16	25 1/2	15 11/16	18	2 7/8	2 1/4	18 1/4	3 1/16	1 7/8
18	25	17 11/16	19 3/4	2 3/4	1 9/16	19 3/4	2 3/4	1 9/16	18	28	17 11/16	20 1/8	3 1/16	2 3/8	20 3/8	3 1/16	2
20	27 1/2	19 11/16	21 7/8	3	1 11/16	21 7/8	3	1 11/16	20	30 1/2	19 11/16	22 1/4	3 1/4	2 1/2	22 1/2	3 1/4	2 1/4
22	29 1/2	21 11/16	24	3 1/4	1 13/16	24	3 1/4	1 13/16	22	33	21 11/16	24 1/2	3 7/16	2 5/8	24 3/4	3 3/8	2 3/8
24	32	23 11/16	26	3 1/4	1 7/8	26	3 1/4	1 7/8	24	36	23 11/16	26 3/4	3 5/8	2 3/4	27	3 5/8	2 7/16

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON, CAST OR ROLLED STEEL SCREWED FLANGES

125 AND 250 POUNDS PRESSURE

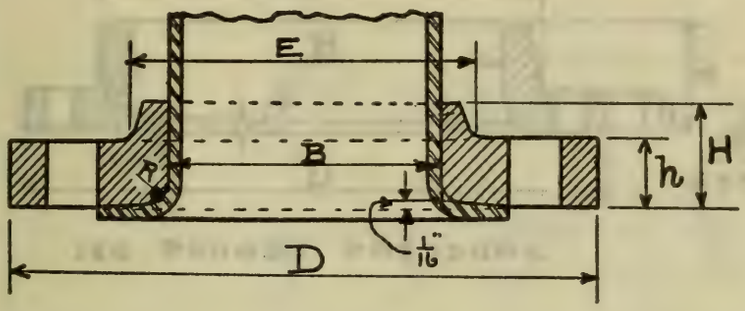


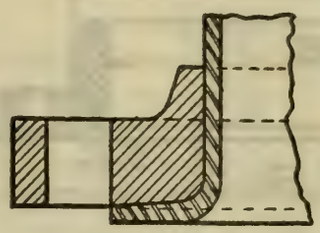
| SIZE | D | Z | | |

PITTSBURGH PIPING & EQUIPMENT CO.

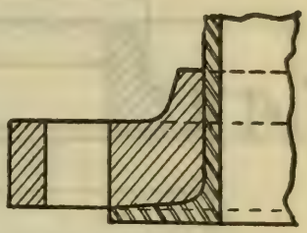
CAST IRON, CAST OR ROLLED STEEL VAN STONE FLANGES

125 AND 250 POUNDS PRESSURE





REGULAR JOINT



SQUARE JOINT

Note:- Regular Joint will always be furnished unless otherwise noted.

125 POUNDS PRESSURE										250 POUNDS PRESSURE														
				CAST IRON			STEEL							CAST IRON			STEEL							
																	LOW HUB			HIGH HUB				
SIZE	D	B	R	E	H	h	E	H	h	SIZE	D	B	R	E	H	h	E	H	h	E	H	h		
4	9	4 5/8	3/8	6	3 1/4	15/16	5 3/8	1 3/16	15/16	4	10	4 5/8	3/8	6	3 1/2	1 1/4	5 13/16	1 3/4	1 1/8	5 3/4	3 1/8	1 1/8		
4 1/2	9 1/4	5 1/8	3/8	6 3/4	3 1/2	15/16	5 13/16	1 1/4	15/16	4 1/2	10 1/2	5 1/8	3/8	6 3/4	3 3/4	1 5/16	6 1/4	1 13/16	1 1/4	6 1/4	3 1/4	1 1/4		
5	10	5 11/16	3/8	7 1/2	3 1/2	15/16	6 7/16	1 5/16	15/16	5	11	5 11/16	3/8	7 1/2	3 3/4	1 3/8	6 13/16	1 7/8	1 1/4	7	3 1/4	1 1/4		
6	11	6 11/16	3/8	8 1/2	3 1/2	1	7 9/16	1 7/16	1	6	12 1/2	6 11/16	3/8	8 1/2	3 3/4	1 7/16	7 7/8	2	1 1/4	7 15/16	3 1/4	1 1/4		
7	12 1/2	7 3/4	3/8	9 5/8	3 5/8	1 1/16	8 5/8	1 1/2	1 1/16	7	14	7 3/4	3/8	9 5/8	3 7/8	1 1/2	9 1/8	2 1/16	1 5/16	9 1/8	3 3/8	1 5/16		
8	13 1/2	8 3/4	7/16	10 5/8	3 5/8	1 1/8	9 11/16	1 5/8	1 1/8	8	15	8 3/4	7/16	10 3/4	4	1 5/8	10 1/8	2 3/16	1 3/8	10 5/16	3 1/2	1 3/8		
9	15	9 3/4	7/16	11 5/8	3 5/8	1 1/8	10 5/8	1 3/4	1 1/8	9	16 1/4	9 3/4	7/16	11 3/4	4 1/8	1 3/4	11 3/16	2 1/4	1 7/16	11 3/8	3 5/8	1 7/16		
10	16	10 7/8	7/16	12 3/4	3 5/8	1 3/16	11 15/16	1 7/8	1 3/16	10	17 1/2	10 7/8	7/16	13	4 1/4	1 7/8	12 9/16	2 3/8	1 1/2	12 5/8	3 3/4	1 1/2		
12	19	12 7/8	1/2	15	3 3/4	1 1/4	14 1/8	2 1/16	1 1/4	12	20 1/2	12 7/8	1/2	15 1/2	4 3/8	2	14 5/8	2 9/16	1 5/8	14 3/4	4	1 5/8		
14	21	14 1/8	1/2	16 1/4	4	1 3/8	15 7/16	2 3/16	1 3/8	14	23	14 1/8	1/2	16 3/4	4 1/2	2 1/8	15 13/16	2 11/16	1 3/4	16 3/16	4 3/8	1 3/4		
15	22 1/4	15 1/8	1/2	17 1/4	4 1/8	1 3/8	16 1/2	2 3/8	1 3/8	15	24 1/2	15 1/8	1/2	17 7/8	4 1/2	2 3/16	17 3/16	2 13/16	1 13/16	17 1/4	4 1/2	1 13/16		
16	23 1/2	16 1/8	1/2	18 1/4	4 1/4	1 7/16	17 5/8	2 1/2	1 7/16	16	25 1/2	16 1/8	1/2	19	4 5/8	2 1/4	18 1/4	3 1/16	1 7/8	18 1/2	4 3/4	1 7/8		
18	25	18 1/8	5/8	20 1/4	4 3/8	1 9/16	19 3/4	2 3/4	1 9/16	18	28	18 1/8	5/8	21 1/8	4 3/4	2 3/8	20 3/8	3 1/16	2	20 3/4	5	2		
20	27 1/2	20 1/8	5/8	22 1/2	4 1/2	1 11/16	21 7/8	3	1 11/16	20	30 1/2	20 1/8	5/8	23 1/4	5	2 1/2	22 1/2	3 1/4	2 1/4	22 1/2	5 1/2	2 1/4		
22	29 1/2	22 1/8	5/8	24 1/2	4 5/8	1 13/16	24	3 1/4	1 13/16	22	33	22 1/8	5/8	25 1/2	5 1/4	2 5/8	24 3/4	3 3/8	2 3/8	24 3/4	5 1/2	2 3/8		
24	32	24 1/8	5/8	26 1/2	4 3/4	1 7/8	26	3 1/4	1 7/8	24	36	24 1/8	5/8	27 3/4	5 3/8	2 3/4	27	3 5/8	2 7/16	27	6 1/4	2 7/16		
26	34 1/4	26 1/8	3/4	28 1/2	4 7/8	2	28	3 3/8	2	26	38 1/4	26 1/8	3/4	30	5 1/2	2 13/16	28 3/4	3 3/4	2 7/16	28 3/4	6 1/4	2 7/16		
28	36 1/2	28 1/8	3/4	30 3/4	5	2 1/16	30 1/4	3 1/2	2 1/16	28	40 3/4	28 1/8	3/4	32 1/4	5 5/8	2 15/16	31	3 7/8	2 7/16	31	6 1/4	2 7/16		
30	38 3/4	30 1/8	3/4	32 3/4	5 1/8	2 1/8	32 1/4	3 3/4	2 1/8	30	43	30 1/8	3/4	34 1/2	5 3/4	3	33	4	2 7/16	33	6 1/4	2 7/16		

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON, CAST OR ROLLED STEEL VAN STONE FLANGES

125 AND 250 POUNDS PRESSURE

SQUARE JOINT

REGULAR JOINT

Note:- Regular Joint will always be furnished unless otherwise noted.

125 POUNDS PRESSURE

Size	D	B	R	CAST IRON			STEEL		
				E	H	h	E	H	h
4	9	4 3/8	5/8	5	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
4 1/2	9 1/2	4 7/8	5/8	5 1/2	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
5	10	5 3/8	5/8	5 1/2	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
6	11	6 1/16	5/8	6	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
7	12 1/2	7 1/4	5/8	6 1/2	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
8	13 1/2	8 3/8	5/8	7	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
9	15	9 1/2	5/8	7 1/2	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
10	16	10 5/8	5/8	8	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
12	19	12 7/8	5/8	8 1/2	3 1/2	1 1/4	5 1/16	3 5/8	1 1/8
14	21	14 1/8	5/8	9	4	1 3/8	5 1/16	3 5/8	1 1/8
15	22 1/2	15 1/4	5/8	9 1/2	4	1 3/8	5 1/16	3 5/8	1 1/8
16	23 1/2	16 1/4	5/8	9 1/2	4	1 3/8	5 1/16	3 5/8	1 1/8
18	25	17 1/4	5/8	10	4	1 3/8	5 1/16	3 5/8	1 1/8
20	27 1/2	19 3/8	5/8	10 1/2	4	1 3/8	5 1/16	3 5/8	1 1/8
22	29 1/2	21 1/2	5/8	11	4	1 3/8	5 1/16	3 5/8	1 1/8
24	32	23 5/8	5/8	11 1/2	4	1 3/8	5 1/16	3 5/8	1 1/8
26	34 1/2	25 3/4	5/8	12	4	1 3/8	5 1/16	3 5/8	1 1/8
28	36 1/2	27 7/8	5/8	12 1/2	4	1 3/8	5 1/16	3 5/8	1 1/8
30	38 1/2	30	5/8	13	4	1 3/8	5 1/16	3 5/8	1 1/8

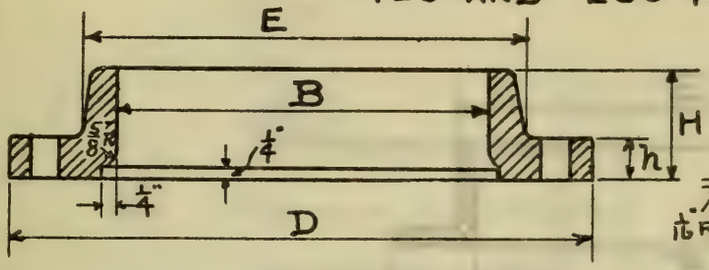
250 POUNDS PRESSURE

Size	D	B	R	CAST IRON			STEEL				
				E	H	h	LOW HUB E	LOW HUB h	HIGH HUB E	HIGH HUB H	HIGH HUB h
4	10	4 7/8	5/8	5 1/2	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
4 1/2	10 1/2	5 3/8	5/8	5 1/2	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
5	11 1/2	5 7/8	5/8	6	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
6	12 1/2	6 15/16	5/8	6 1/2	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
7	14	7 3/4	5/8	7	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
8	15	8 7/8	5/8	7 1/2	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
9	16 1/2	10	5/8	8	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
10	17 1/2	11 1/8	5/8	8 1/2	3 1/2	1 1/4	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
12	20 1/2	13 1/4	5/8	9 1/2	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
14	23	15 1/2	5/8	10 1/2	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
15	24	16 1/2	5/8	11	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
16	25	17 1/2	5/8	11 1/2	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
18	27	19 5/8	5/8	12	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
20	29 1/2	21 3/4	5/8	12 1/2	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
22	32	23 7/8	5/8	13	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
24	34 1/2	25 7/8	5/8	13 1/2	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
26	36 1/2	28	5/8	14	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
28	38 1/2	30 1/8	5/8	14 1/2	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8
30	40 3/4	32 1/4	5/8	15	4	1 3/8	5 1/16	3 5/8	5 1/16	3 5/8	1 1/8

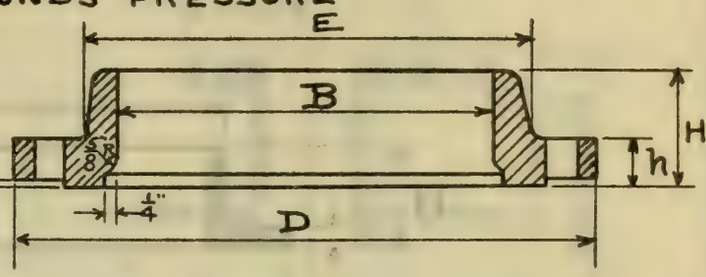
PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON, CAST OR ROLLED STEEL PEENED FLANGES

125 AND 250 POUNDS PRESSURE



125 POUNDS PRESSURE



250 POUNDS PRESSURE

125 POUNDS PRESSURE									250 POUNDS PRESSURE								
SIZE	D	B	CAST IRON			STEEL			SIZE	D	B	CAST IRON			STEEL		
			E	H	h	E	H	h				E	H	h	E	H	h
5	10	5 5/8	7 1/2	3 1/2	15/16	6 7/8	2 5/16	15/16	5	11	5 5/8	7 1/2	3 3/4	1 3/8	7	3 1/4	1 1/4
6	11	6 5/8	8 1/2	3 1/2	1	7 7/8	2 7/16	1	6	12 1/2	6 5/8	8 1/2	3 3/4	1 7/16	7 15/16	3 1/4	1 1/4
7	12 1/2	7 11/16	9 5/8	3 5/8	1 1/16	9	2 1/2	1 1/16	7	14	7 11/16	9 5/8	3 7/8	1 1/2	9 1/8	3 3/8	1 5/16
8	13 1/2	8 11/16	10 5/8	3 5/8	1 1/8	10	2 5/8	1 1/8	8	15	8 11/16	10 3/4	4	1 5/8	10 5/16	3 1/2	1 3/8
9	15	9 11/16	11 5/8	3 5/8	1 1/8	11 1/8	2 3/4	1 1/8	9	16 1/4	9 11/16	11 3/4	4 1/8	1 3/4	11 3/8	3 5/8	1 7/16
10	16	10 13/16	12 3/4	3 5/8	1 3/16	12 1/4	3	1 3/16	10	17 1/2	10 13/16	13	4 1/4	1 7/8	12 5/8	3 3/4	1 1/2
12	19	12 13/16	15	3 3/4	1 1/4	14 1/2	3 3/8	1 1/4	12	20 1/2	12 13/16	15 1/2	4 3/8	2	14 3/4	4	1 5/8
14	21	14 1/16	16 1/4	4	1 3/8	15 7/8	3 3/8	1 3/8	14	23	14 1/16	16 3/4	4 1/2	2 1/8	16 3/16	4 3/8	1 3/4
15	22 1/4	15 1/16	17 1/4	4 1/8	1 3/8	16 7/8	3 1/2	1 3/8	15	24 1/2	15 1/16	17 7/8	4 1/2	2 3/16	17 1/4	4 1/2	1 13/16
16	23 1/2	16 1/16	18 1/4	4 1/4	1 7/16	18	3 5/8	1 7/16	16	25 1/2	16 1/16	19	4 5/8	2 1/4	18 1/2	4 3/4	1 7/8
18	25	18 1/16	20 1/4	4 3/8	1 9/16	20 1/8	3 7/8	1 9/16	18	28	18 1/16	21 1/8	4 3/4	2 3/8	20 3/4	5	2
20	27 1/2	20 1/16	22 1/2	4 1/2	1 11/16	22 1/4	4 1/8	1 11/16	20	30 1/2	20 1/16	23 1/4	5	2 1/2	22 1/2	5 1/2	2 1/4
22	29 1/2	22 1/16	24 1/2	4 5/8	1 13/16	24 1/2	4 5/8	1 13/16	22	33	22 1/16	25 1/2	5 1/4	2 5/8	24 3/4	5 1/2	2 3/8
24	32	24 1/16	26 1/2	4 3/4	1 7/8	26 1/2	4 3/4	1 7/8	24	36	24 1/16	27 3/4	5 3/8	2 3/4	27	6 1/4	2 7/16
26	34 1/4	26 1/16	28 1/2	4 7/8	2	28 1/2	4 7/8	2	26	38 1/4	26 1/16	30	5 1/2	2 13/16	28 3/4	6 1/4	2 7/16
28	36 1/2	28 1/16	30 3/4	5	2 1/16	30 3/4	5	2 1/16	28	40 3/4	28 1/16	32 1/4	5 5/8	2 15/16	31	6 1/4	2 7/16
30	38 3/4	30 1/16	32 3/4	5 1/8	2 1/8	32 3/4	5 1/8	2 1/8	30	43	30 1/16	34 1/2	5 3/4	3	33	6 1/4	2 7/16

Cast Iron Flanges 5" to 12" inc. for 125 pounds to be made with bosses.

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON, CAST OR ROLLED STEEL PEENED FLANGES

125 AND 250 POUNDS PRESSURE

125 POUNDS PRESSURE

250 POUNDS PRESSURE

Size	D	B	E	t	H	K	h
5	10	5 5/8	7 1/2	1 1/2	6 3/8	2 3/4	1 1/4
6	11	6 5/8	8 1/2	1 5/8	7 1/8	2 7/8	1 1/4
7	12 1/2	7 5/8	9 1/2	1 3/4	7 5/8	3	1 5/16
8	13 1/2	8 5/8	10 1/2	1 7/8	8 1/8	3 1/8	1 3/8
9	15	9 5/8	11 1/2	2	8 5/8	3 1/4	1 7/16
10	16	10 5/8	12 1/2	2 1/8	9 1/8	3 3/8	1 1/2
12	19	12 5/8	14 1/2	2 3/8	10 1/8	3 5/8	1 5/8
14	21	14 1/4	16 1/2	2 5/8	11 1/8	3 7/8	1 3/4
15	22 1/2	15 1/4	17 1/2	2 3/4	11 5/8	4	1 13/16
16	23 1/2	16 1/4	18 1/2	2 7/8	12 1/8	4 1/8	1 7/8
18	25	18 1/4	20 1/2	3	13 1/8	4 1/4	2
20	27 1/2	20 1/4	22 1/2	3 1/8	14 1/8	4 3/8	2 1/16
22	29 1/2	22 1/4	24 1/2	3 1/4	15 1/8	4 1/2	2 1/8
24	32	24 1/4	26 1/2	3 3/8	16 1/8	4 5/8	2 3/16
26	34 1/2	26 1/4	28 1/2	3 1/2	17 1/8	4 3/4	2 1/4
28	36 1/2	28 1/4	30 1/2	3 5/8	18 1/8	4 7/8	2 5/16
30	38 3/4	30 1/4	32 3/4	3 3/4	19 1/8	5	2 3/8

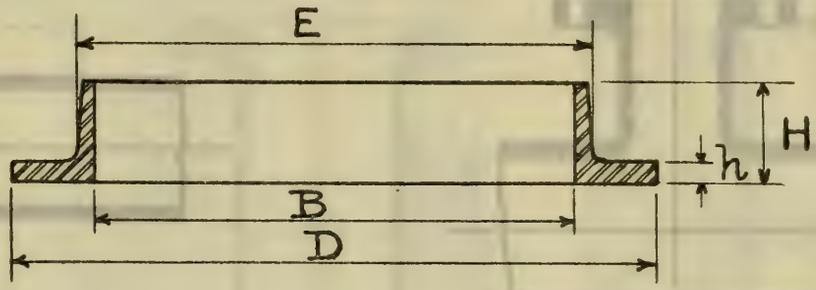
250 POUNDS PRESSURE

Size	D	B	E	t	H	K	h
5	11	5 5/8	7 1/2	1 3/4	6 3/4	3 1/4	1 1/4
6	12 1/2	6 5/8	8 1/2	1 7/8	7 1/4	3 3/8	1 5/16
7	14	7 5/8	9 1/2	2	7 3/4	3 5/8	1 3/8
8	15	8 5/8	10 1/2	2 1/8	8 1/4	3 3/4	1 7/16
9	16 3/4	9 5/8	11 1/2	2 1/4	8 3/4	3 7/8	1 1/2
10	17 3/4	10 5/8	12 1/2	2 3/8	9 1/4	4	1 9/16
12	20 1/2	12 5/8	14 1/2	2 5/8	10 1/4	4 1/4	1 5/8
14	23	14 1/4	16 1/2	2 7/8	11 1/4	4 1/2	1 3/4
15	24 1/4	15 1/4	17 1/2	3	11 3/4	4 5/8	1 13/16
16	25 3/4	16 1/4	18 1/2	3 1/8	12 1/4	4 3/4	1 7/8
18	28	18 1/4	20 1/2	3 3/8	13 1/4	5	2
20	30 1/2	20 1/4	22 3/4	3 5/8	14 1/4	5 1/8	2 1/16
22	33	22 1/4	25	3 7/8	15 1/4	5 1/4	2 1/8
24	36	24 1/4	27 1/2	4 1/8	16 1/4	5 3/8	2 3/16
26	38 1/2	26 1/4	29 1/2	4 1/4	17 1/4	5 1/2	2 1/4
28	40 1/2	28 1/4	31 1/2	4 3/8	18 1/4	5 5/8	2 5/16
30	43	30 1/4	34	4 1/2	19 1/4	5 3/4	2 3/8

Cast Iron Flanges 5" to 12" inc. for 125 pounds
to be made with bosses

PITTSBURGH PIPING & EQUIPMENT CO.

ROLLED STEEL RIVETED FLANGES



A.S.M.E. STANDARD						RIVETED PIPE MFGS. STANDARD								
												BOLT HOLES		
SIZE	D	B	E	h	H	SIZE	D	B	E	h	H	NO.	SIZE	B.C.
						3	6	$3\frac{3}{16}$	$3\frac{9}{16}$	$\frac{5}{16}$	$1\frac{1}{2}$	4	$\frac{9}{16}$	$4\frac{3}{4}$
4	9	$4\frac{3}{16}$	$4\frac{13}{16}$	$\frac{9}{16}$	$1\frac{9}{16}$	4	7	$4\frac{3}{16}$	$4\frac{9}{16}$	$\frac{5}{16}$	$1\frac{1}{2}$	8	$\frac{9}{16}$	$5\frac{15}{16}$
5	10	$5\frac{3}{16}$	$5\frac{7}{8}$	$\frac{9}{16}$	$1\frac{11}{16}$	5	8	$5\frac{3}{16}$	$5\frac{9}{16}$	$\frac{5}{16}$	$1\frac{1}{2}$	8	$\frac{9}{16}$	$6\frac{15}{16}$
6	11	$6\frac{3}{16}$	$6\frac{7}{8}$	$\frac{9}{16}$	$1\frac{11}{16}$	6	9	$6\frac{3}{16}$	$6\frac{9}{16}$	$\frac{3}{8}$	$1\frac{1}{2}$	8	$\frac{5}{8}$	$7\frac{7}{8}$
7	$12\frac{1}{2}$	$7\frac{3}{16}$	$7\frac{7}{8}$	$\frac{9}{16}$	$1\frac{13}{16}$	7	10	$7\frac{9}{16}$	$7\frac{9}{16}$	$\frac{3}{8}$	$1\frac{5}{8}$	8	$\frac{5}{8}$	9
8	$13\frac{1}{2}$	$8\frac{3}{16}$	$8\frac{7}{8}$	$\frac{5}{8}$	$1\frac{7}{8}$	8	11	$8\frac{3}{16}$	$8\frac{5}{8}$	$\frac{3}{8}$	$1\frac{3}{4}$	8	$\frac{5}{8}$	10
9	15	$9\frac{1}{4}$	$9\frac{15}{16}$	$\frac{5}{8}$	$1\frac{7}{8}$	9	13	$9\frac{1}{4}$	$9\frac{11}{16}$	$\frac{3}{8}$	$1\frac{3}{4}$	8	$\frac{5}{8}$	$11\frac{1}{4}$
10	16	$10\frac{1}{4}$	$10\frac{15}{16}$	$\frac{11}{16}$	$1\frac{15}{16}$	10	14	$10\frac{1}{4}$	$10\frac{3}{4}$	$\frac{3}{8}$	$1\frac{7}{8}$	8	$\frac{5}{8}$	$12\frac{1}{4}$
						11	15	$11\frac{1}{4}$	$11\frac{3}{4}$	$\frac{7}{16}$	$1\frac{7}{8}$	12	$\frac{5}{8}$	$13\frac{3}{8}$
12	19	$12\frac{1}{4}$	$12\frac{15}{16}$	$\frac{3}{4}$	2	12	16	$12\frac{1}{4}$	$12\frac{3}{4}$	$\frac{7}{16}$	$1\frac{7}{8}$	12	$\frac{5}{8}$	$14\frac{1}{4}$
						13	17	$13\frac{1}{4}$	$13\frac{3}{4}$	$\frac{7}{16}$	2	12	$\frac{5}{8}$	$15\frac{1}{4}$
14	21	$14\frac{1}{4}$	$15\frac{1}{16}$	$\frac{3}{4}$	$2\frac{3}{4}$	14	18	$14\frac{1}{4}$	$14\frac{3}{4}$	$\frac{7}{16}$	2	12	$\frac{5}{8}$	$16\frac{1}{4}$
						15	19	$15\frac{1}{4}$	$15\frac{3}{4}$	$\frac{9}{16}$	2	12	$\frac{5}{8}$	$17\frac{7}{16}$
16	$23\frac{1}{2}$	$16\frac{1}{4}$	17	$\frac{3}{4}$	$2\frac{3}{4}$	16	$21\frac{1}{4}$	$16\frac{1}{4}$	$16\frac{3}{4}$	$\frac{5}{8}$	$2\frac{1}{4}$	12	$\frac{5}{8}$	$19\frac{1}{4}$
18	25	$18\frac{5}{16}$	$19\frac{1}{16}$	$\frac{3}{4}$	$2\frac{3}{4}$	18	$23\frac{1}{4}$	$18\frac{5}{16}$	$18\frac{7}{8}$	$\frac{5}{8}$	$2\frac{1}{4}$	16	$\frac{3}{4}$	$21\frac{1}{4}$
20	$27\frac{1}{2}$	$20\frac{5}{16}$	$21\frac{1}{16}$	$\frac{7}{8}$	$3\frac{1}{8}$	20	$25\frac{1}{4}$	$20\frac{5}{16}$	$20\frac{7}{8}$	$\frac{5}{8}$	$2\frac{1}{2}$	16	$\frac{3}{4}$	$23\frac{1}{8}$
22	$29\frac{1}{2}$	$22\frac{3}{8}$	$23\frac{3}{16}$	$\frac{7}{8}$	$3\frac{1}{8}$	22	$28\frac{1}{4}$	$22\frac{3}{8}$	23	$\frac{11}{16}$	$2\frac{1}{2}$	16	$\frac{3}{4}$	26
24	32	$24\frac{3}{8}$	$25\frac{3}{16}$	$\frac{7}{8}$	$3\frac{1}{8}$	24	30	$24\frac{3}{8}$	25	$\frac{11}{16}$	$2\frac{1}{2}$	16	$\frac{3}{4}$	$27\frac{3}{4}$

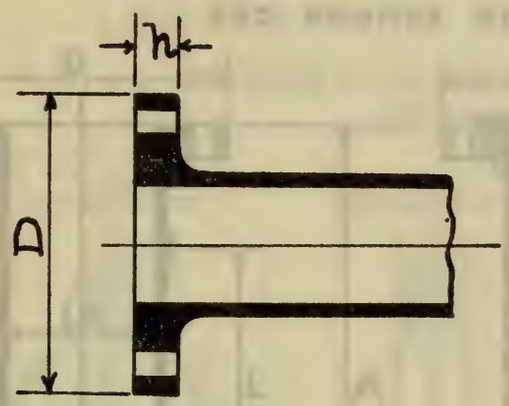
PITTSBURGH PIPING & EQUIPMENT CO.

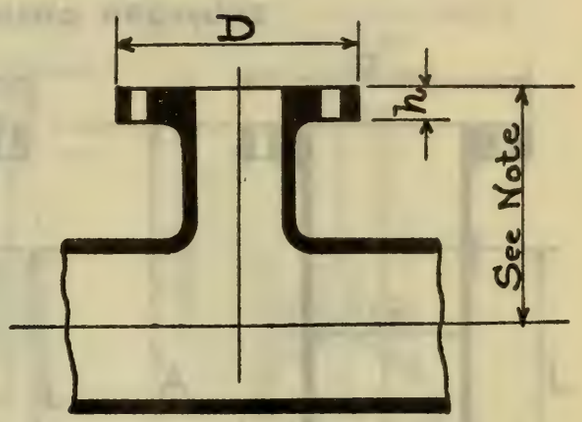
ROLLED STEEL RIVETED FLANGES

A.S.M.E. STANDARD						RIVETED PIPE MFGS. STANDARD							
Size	D	B	E	h	H	Size	D	B	E	h	H	BOLT HOLES No.	BOLT HOLES Size	BOLT HOLES B.C.
						3	6	3 1/16	3 1/16	1/2	1 1/2	4	3/4	4 3/4
4	9	4 1/16	4 1/16	1/2	1 1/16	4	7	4 1/16	4 1/16	1/2	1 1/2	8	5/8	5 7/8
5	10	5 1/16	5 3/8	1/2	1 1/16	5	8	5 1/16	5 1/16	1/2	1 1/2	8	3/4	6 1/2
6	11	6 1/16	6 3/8	1/2	1 1/16	6	9	6 3/16	6 1/16	1/2	1 1/2	8	3/4	7 1/4
7	12 1/2	7 1/16	7 1/8	1/2	1 1/16	7	10	7 1/16	7 1/16	1/2	1 1/2	8	3/4	8
8	13 1/2	8 1/16	8 1/8	1/2	1 1/8	8	11	8 1/16	8 1/16	1/2	1 1/2	8	3/4	9
9	15	9 1/16	9 1/16	1/2	1 1/8	9	13	9 1/16	9 1/16	1/2	1 1/2	8	3/4	10 1/4
10	16	10 1/16	10 1/16	1/2	1 1/16	10	14	10 1/16	10 1/16	1/2	1 1/2	8	3/4	11 1/4
						11	15	11 1/16	11 1/16	1/2	1 1/2	12	3/4	12 3/4
12	19	12 1/16	12 1/16	1/2	2	12	16	12 1/16	12 1/16	1/2	1 1/2	12	3/4	14 3/4
						13	17	13 1/16	13 1/16	1/2	2	12	3/4	15 1/4
14	21	14 1/16	15 1/16	1/2	2 1/16	14	18	14 1/16	14 1/16	1/2	2	12	3/4	17 1/16
						15	19	15 1/16	15 1/16	1/2	2	12	3/4	17 3/4
16	23 1/2	16 1/16	17	1/2	2 1/16	16	21 1/16	16 1/16	16 1/16	1/2	2 1/16	12	3/4	19 1/16
18	25	18 1/16	19 1/16	1/2	2 1/16	18	23 1/16	18 1/16	18 1/16	1/2	2 1/16	16	3/4	21 1/16
20	27 1/2	20 1/16	21 1/16	1/2	3 3/8	20	25 1/16	20 1/16	20 1/16	1/2	2 1/2	16	3/4	23 3/8
22	29 1/2	22 3/8	23 1/16	1/2	3 3/8	22	28 1/16	22 1/8	23	1/2	2 1/2	16	3/4	25
24	32	24 1/8	25 1/16	1/2	3 3/8	24	30	24 1/8	25	1/2	2 1/2	16	3/4	27 1/8

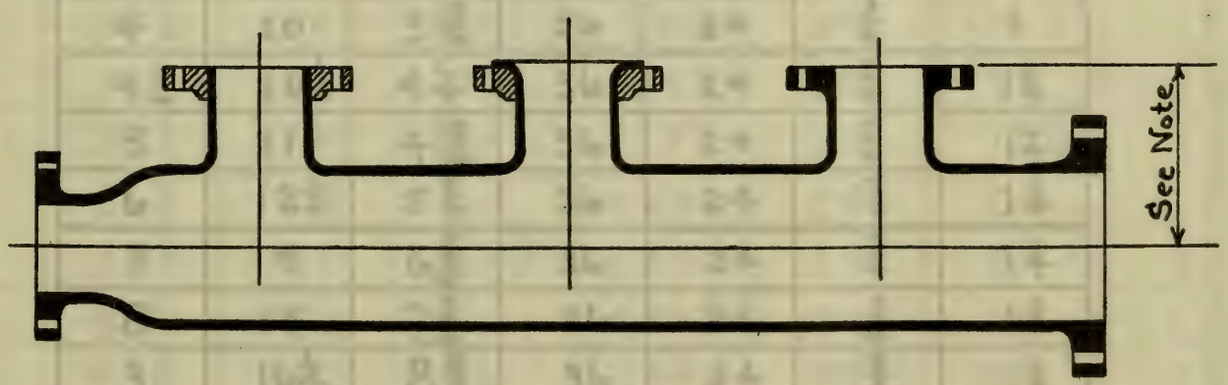
PITTSBURGH PIPING & EQUIPMENT CO.

WELDED STEEL FLANGES AND PIPE NECKS





SIZE	D	250 LBS. h	350 LBS. h	SIZE	D	250 LBS. h	350 LBS. h
2 1/2	7 1/2	1	1 3/8	10	17 1/2	1 1/2	2 1/2
3	8 1/4	1	1 1/2	12	20 1/2	1 5/8	2 5/8
3 1/2	9	1 1/8	1 5/8	14	23	1 3/4	2 3/4
4	10	1 1/8	1 3/4	15	24 1/2	1 13/16	2 3/4
4 1/2	10 1/2	1 1/4	1 3/4	16	25 1/2	1 7/8	2 7/8
5	11	1 1/4	1 7/8	18	28	2	3
6	12 1/2	1 1/4	1 7/8	20	30 1/2	2 1/4	3 1/4
7	14	1 5/16	2	22	33	2 3/8	3 1/4
8	15	1 3/8	2 1/8	24	36	2 7/16	3 1/2
9	16 1/4	1 7/16	2 1/4				



Note:- Dimension center to face of necks to correspond to tees as given in tables number 8 and 10.
Flanges may be of either Cast Iron or Steel and attached by Screwed, Van Stone or Welded method.

PITTSBURGH PIPING & EQUIPMENT CO.

WELDED STEEL FLANGES AND PIPE NECKS

SIZE	D	250 LBS K	350 LBS K
2½	7½	1	1⅛
3	8¼	1	1¼
3½	9	1⅛	1⅜
4	10	1⅛	1½
4½	10½	1¼	1⅝
5	11	1¼	1¾
6	12½	1¼	1⅞
7	14	1⅜	2
8	15	1⅜	2⅛
9	16¼	1⅝	2¼

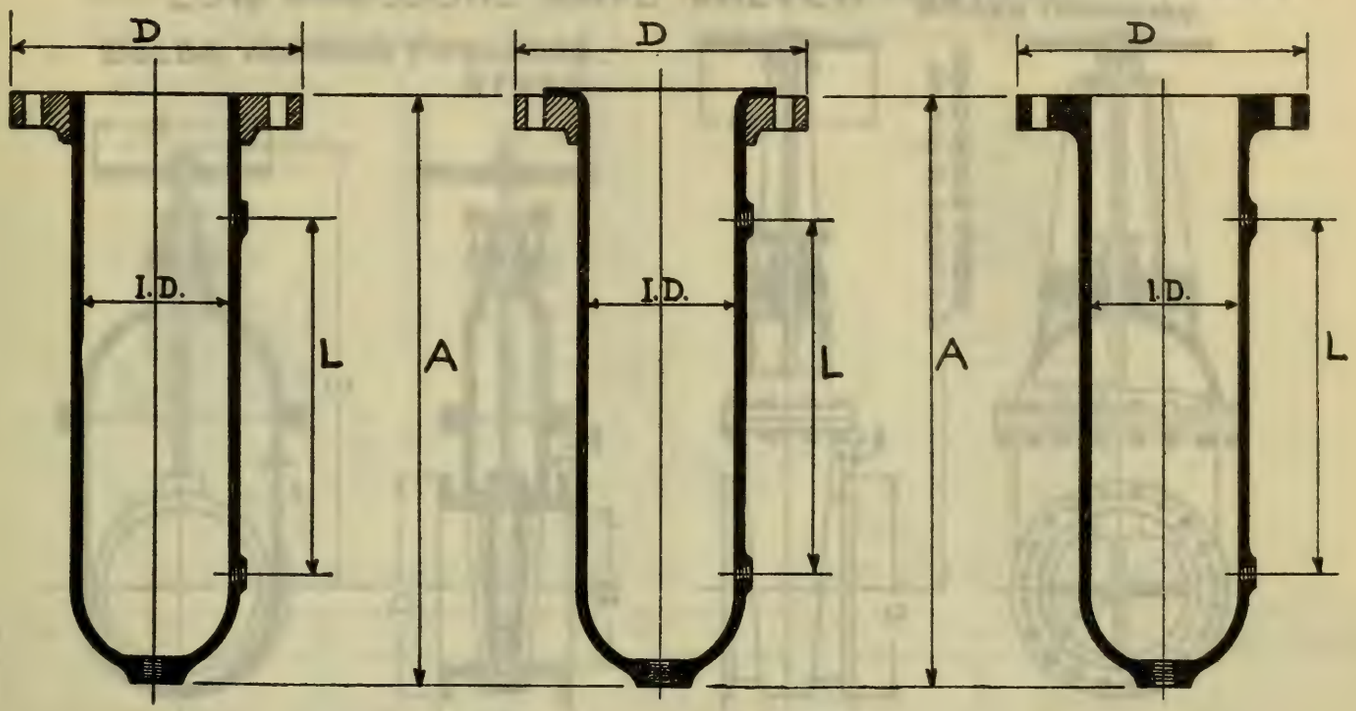
SIZE	D	250 LBS K	350 LBS K
10	17½	1½	2½
12	20½	1⅝	2⅝
14	23	1⅞	2¾
15	24½	1⅞	2⅞
16	25½	1⅞	2⅞
18	28	2	3
20	30½	2¼	3¼
22	33	2⅜	3¼
24	36	2⅝	3½

Note:- Dimension center to face of necks to correspond to tees as given in tables number 8 and 10.
Flanges may be of either Cast Iron or Steel and attached by Screwed, Van Stone or Welded method.

PITTSBURGH PIPING & EQUIPMENT CO.

WROUGHT STEEL PIPE DRIP POCKETS

250 POUNDS STEAM WORKING PRESSURE



NOTES:- DRIP POCKETS WILL BE MADE OF EXTRA STRONG PIPE.
DRIP POCKETS WILL BE FURNISHED WITHOUT GAUGES UNLESS ORDERED
DIMENSIONS "A" AND "L" MAY BE CHANGED TO SUIT CONDITIONS.

SIZE	D	I.D.	A	L	GAUGE TAP	DRAIN TAP
2	6 1/2	1 15/16	36	24	1/2	3/4
2 1/2	7 1/2	2 5/16	36	24	1/2	3/4
3	8 1/4	2 7/8	36	24	1/2	1
3 1/2	9	3 3/8	36	24	1/2	1
4	10	3 13/16	36	24	3/4	1
4 1/2	10 1/2	4 1/4	36	24	3/4	1 1/4
5	11	4 13/16	36	24	3/4	1 1/4
6	12 1/2	5 3/4	36	24	3/4	1 1/4
7	14	6 5/8	36	24	3/4	1 1/4
8	15	7 5/8	36	24	3/4	1 1/4
9	16 1/4	8 5/8	36	24	3/4	1 1/2
10	17 1/2	9 3/4	36	24	3/4	1 1/2
12	20 1/2	11 3/4	36	24	3/4	1 1/2

PITTSBURGH PIPING & EQUIPMENT CO.

WROUGHT STEEL PIPE DRIP POCKETS

250 POUNDS STEAM WORKING PRESSURE

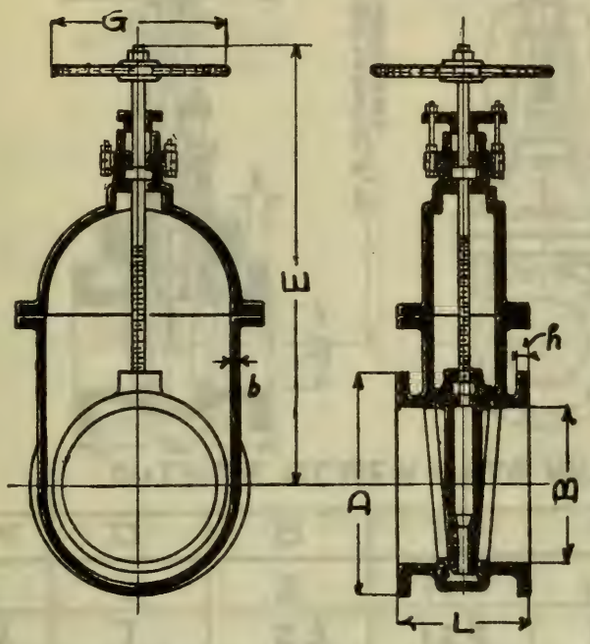
NOTES:- Drip Pockets will be made of EXTRA STRONG Pipe.
Drip Pockets will be furnished without gauges unless ordered
Dimensions "A" and "L" may be changed to suit conditions.

SIZE	D	I.D.	A	L	GAUGE TAP	DRAIN TAP
2	6½	1 5/8	36	24	¼	¼
2½	7½	2 1/8	36	24	¼	¼
3	8½	2 3/8	36	24	¼	¼
3½	9	3 1/8	36	24	¼	¼
4	10	3 5/8	36	24	¼	¼
4½	10½	4 1/8	36	24	¼	¼
5	11	4 5/8	36	24	¼	¼
6	12½	5 1/8	36	24	¼	¼
7	14	6 3/8	36	24	¼	¼
8	15	7 1/8	36	24	¼	¼
9	16½	8 3/8	36	24	¼	¼
10	17½	9 3/8	36	24	¼	¼
12	20½	11 3/8	36	24	¼	¼

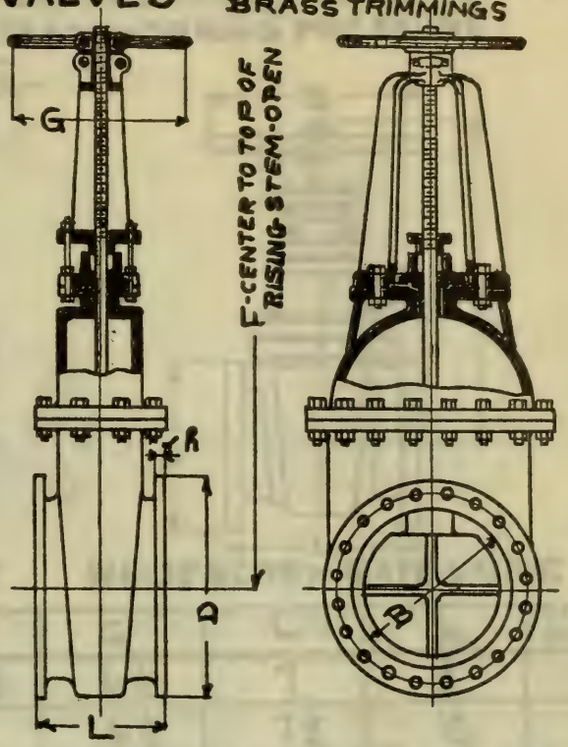
PITTSBURGH PIPING & EQUIPMENT CO.

LOW PRESSURE GATE VALVES - IRON BODY - WEDGE GATE BRASS TRIMMINGS

25 LBS. WORKING PRESSURE - STEAM.



INSIDE SCREW GATE VALVE.



OUTSIDE SCREW GATE VALVE.

SIZE	D	B	E	F	G	L	h
12	19	12	33	58	16	11	1
14	21	14	36 1/2	64 1/2	16	13 1/2	1 1/16
16	23 1/2	16	40 1/2	71 1/2	18	14	1 3/16
18	25	18	44	79	18	14 1/2	1 1/4
20	27 1/2	20	48 1/2	87 1/2	20	15 1/2	1 3/8
22	29 1/2	22	51 1/2	94 1/2	20	16 1/2	1 1/2
24	32	24	58	105 1/2	22	17	1 9/16
26	34 1/4	26	61	111 1/2	22	18 1/2	1 5/8
28	36 1/2	28	65	120	24	20	1 11/16
30	38 3/4	30	67 1/2	126 1/2	24	21	1 3/4
32	41 3/4	32	71	134 1/2	24	22	1 13/16
34	43 3/4	34	76	144	30	23	1 7/8
36	46	36	80	150	30	24	1 7/8
*42	53	42		180	27	27	2 1/16
*48	59 1/2	48		204	27	30	2 3/8

* THESE VALVES ARE FURNISHED GEARED UNLESS OTHERWISE SPECIFIED.

PITTSBURGH PIPING & EQUIPMENT CO.

LOW PRESSURE GATE VALVES - IRON BODY - WEDGE GATE BRASS TRIMMINGS

INSIDE SCREW GATE VALVE.

OUTSIDE SCREW GATE VALVE.

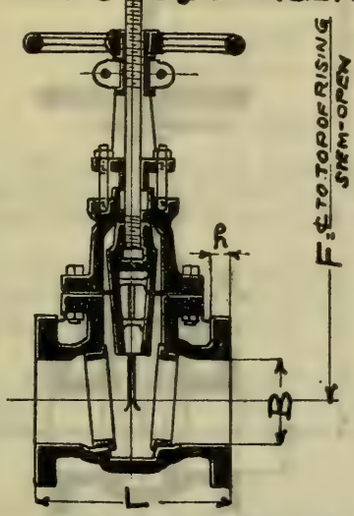
SIZE	D	B	E	F	G	L	h
12	19	12	33	58	16	11	1
14	21	14	36½	64½	16	13½	1 1/16
16	23½	16	40½	71½	18	14	1 1/8
18	25	18	44	79	18	14½	1 3/16
20	27½	20	48½	87½	20	15½	1 5/16
22	29½	22	51½	94½	20	16½	1 3/8
24	32	24	58	103½	22	17	1 7/16
26	34½	26	61	111½	22	18½	1 5/8
28	36½	28	65	120	24	20	1 11/16
30	38½	30	68½	128½	24	21	1 3/4
32	41½	32	71	137½	24	22	1 13/16
34	43½	34	76	146	30	23	1 7/8
36	46	36	80	150	30	24	1 15/16
* 42	53	42		180	27	27	2 1/16
* 48	59½	48		204	27	30	2 3/16

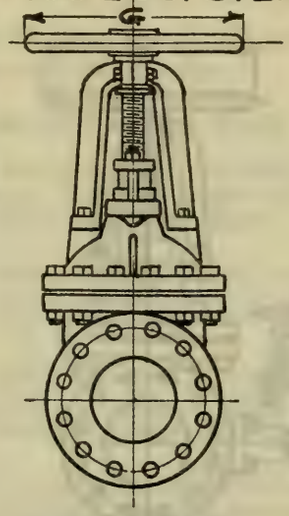
* THESE VALVES ARE FURNISHED GEARED UNLESS OTHERWISE SPECIFIED.

PITTSBURGH PIPING & EQUIPMENT CO.

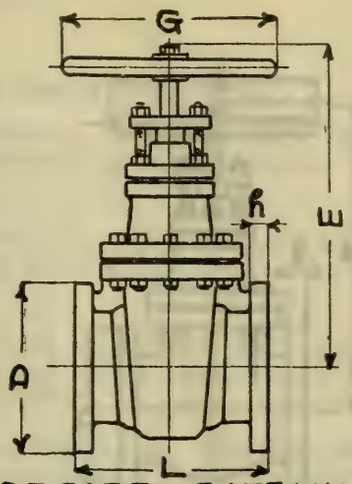
STANDARD GATE VALVES – IRON BODY – WEDGE GATE BRASS TRIMMINGS.

SIZES - 16 & SMALLER - 125 LBS. STEAM WORKING PRESSURE.
SIZES - 16 & LARGER - 100 LBS. STEAM WORKING PRESSURE.





OUTSIDE SCREW GATE VALVE.



INSIDE SCREW GATE VALVE.

SIZE	D	B	E	F	G	L	h	SIZE OF BY-PASS
2	6	2	11 3/4	14 1/2	6 1/2	7	5/8	
2 1/2	7	2 1/2	12 3/4	16	6 1/2	7 1/2	11/16	
3	7 1/2	3	14 1/4	19	7 1/2	8	3/4	
3 1/2	8 1/2	3 1/2	15 1/4	21 1/4	7 1/2	8 1/2	13/16	
4	9	4	16 1/4	24	9	9	15/16	
4 1/2	9 1/4	4 1/2	17 5/8	25 1/2	9	9 1/2	15/16	
5	10	5	19	28 1/2	10	10	15/16	
6	11	6	20 3/4	31 3/4	12	10 1/2	1	
7	12 1/2	7	23	37 1/4	12	11	1 1/16	
8	13 1/2	8	26	41	14	11 1/2	1 1/8	
9	15	9	28	44 3/4	14	12	1 1/8	
10	16	10	30 1/4	50	16	13	1 3/16	
12	19	12	35 1/4	57 1/4	18	14	1 1/4	
14	21	14	39 1/4	66 3/4	20	15	1 3/8	2
15	22 1/4	15	41 1/8	69 3/4	20	15	1 3/8	2
16	23 1/2	16	44 1/4	75 1/4	22	16	1 7/16	3
18	25	18	48 3/4	86	24	17	1 9/16	3
20	27 1/2	20	52 1/2	91	24	18	1 11/16	4
22	29 1/2	22	55 1/2	100	27	19	1 13/16	4
24	32	24	62	109	30	20	1 7/8	4
26	34 1/4	26	65 7/8	117 1/2	30	23	2	4
28	36 1/2	28	70	125	36	26	2 1/16	4
30	38 3/4	30	75 1/2	133	36	30	2 1/8	4
36	46	36	83	158 1/2		36	2 3/8	6

VALVES WILL BE FURNISHED WITHOUT BY-PASS UNLESS SO ORDERED.

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD GATE VALVES — IRON BODY—WEDGE GATE BRASS TRIMMINGS.

SIZES 2" & SMALLER - 150 LBS. STEAM WORKING PRESSURE.
SIZES 2½" & LARGER - 100 LBS. STEAM WORKING PRESSURE.

OUTSIDE SCREW GATE VALVE.

INSIDE SCREW GATE VALVE.

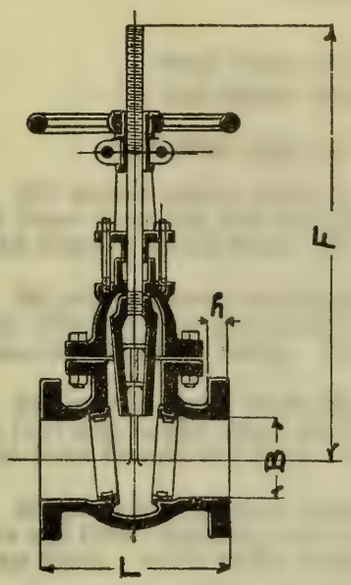
SIZE	D	B	E	F	G	L	Th	SIZE OF BY-PASS
2	6	2	11½	19½	6½	7	⅝	
2½	7	2½	12½	16	6½	7½	⅝	
3	7½	3	14¼	17	7½	8	¾	
3½	8½	3½	15½	21½	7½	8½	⅞	
4	9	4	16½	24	9	9	⅞	
4½	9½	4½	17⅝	25½	9	9½	⅞	
5	10	5	19	28½	10	10	1	
6	11	6	20½	31½	12	10½	1	
7	12½	7	23	37½	12	11	1⅛	
8	13½	8	26	41	14	11½	1⅛	
9	15	9	28	44½	14	12	1¼	
10	16	10	30½	50	16	13	1¼	
12	19	12	35½	57½	18	14	1½	
14	21	14	39½	64½	20	15	1½	2
15	22½	15	41½	69½	20	15	1½	2
16	23½	16	44½	73½	22	16	1⅝	3
18	25	18	48½	82	24	17	1⅝	3
20	27½	20	52½	91	24	18	1⅝	4
22	29½	22	55½	100	27	19	1¾	4
24	32	24	62	109	30	20	1¾	4
26	34½	26	65½	117½	30	23	2	4
28	36½	28	70	125	34	26	2	4
30	38½	30	75½	133	36	30	2½	4
36	46	36	83	158½		36	2½	6

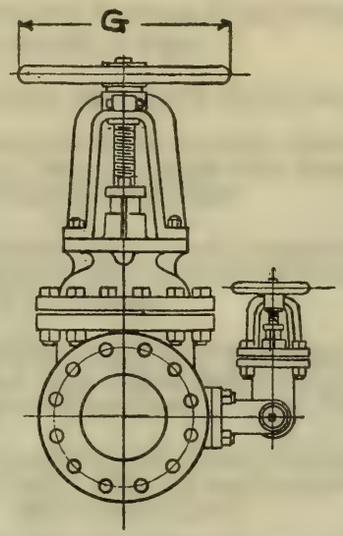
VALVES WILL BE FURNISHED WITHOUT BY-PASS UNLESS SO ORDERED

PITTSBURGH PIPING & EQUIPMENT CO.

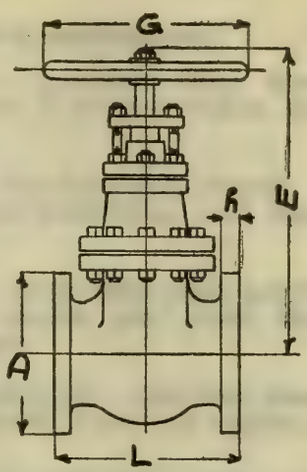
MEDIUM GATE VALVES— SEMI-STEEL BODY-WEDGE GATE HARD METAL SEATS.

175 LBS. STEAM WORKING PRESSURE.





OUTSIDE SCREW GATE VALVE



INSIDE SCREW GATE VALVE

SIZE	D	B	E	F	G	L	h	SIZE OF BY-PASS
2	6½	2	11¼	14	6½	7½	⅞	
2½	7½	2½	12¼	15½	6½	8	1	
3	8¼	3	14	18⅜	7½	9½	1⅛	
3½	9	3½	14¾	20½	7½	10	1 3/16	
4	10	4	16¼	23¾	9	10½	1¼	
4½	10½	4½	17	25	9	11	1 5/16	
5	11	5	19	28⅛	10	11½	1⅜	
6	12½	6	21	31⅞	12	12	1 7/16	1¼
7	14	7	22⅞	35¾	12	12½	1½	1¼
8	15	8	25⅞	40¾	14	13½	1⅝	1½
9	16¼	9	27½	44¼	14	14	1¾	1½
10	17½	10	30⅛	49¾	16	15	1⅞	1½
12	20½	12	33¾	56⅞	18	16	2	2
14	23	14	38½	64½	20	18	2⅛	2
15	24½	15	41	68¾	20	18¾	2 3/16	2
16	25½	16	44¾	74½	22	19½	2¼	3
18	28	18	47⅛	82¼	24	21	2⅜	3
20	30½	20	52	92	24	22½	2½	4
24	36	24	61¾	108	30	25½	2¾	4

WE RECOMMEND THAT VALVES 8" AND LARGER BE PROVIDED WITH BY-PASS.

PITTSBURGH PIPING & EQUIPMENT CO.

MEDIUM GATE VALVES — SEMI-STEEL HIGH-WEDGE GATE HARD METAL SEATS. ITOLDS 600# WORKING PRESSURE.

INSIDE SCREW GATE VALVE

OUTSIDE SCREW GATE VALVE

SIZE	D	B	E	F	G	L	H	SIZE OF BY-PASS
2	6½	2	11¼	14	6½	12½	8¾	
2½	7½	2½	12¼	15½	6½	8	1	
3	8¼	3	14	18¾	7½	9½	1⅛	
3½	9	3½	14½	20½	7½	10	1⅛	
4	10	4	15¼	23¼	9	10½	1¼	
4½	10½	4½	17	25	9	11	1⅝	
5	11	5	19	28⅜	10	11½	1⅜	
6	12½	6	21	31⅝	12	12	1½	1¼
7	14	7	22⅝	35¼	12	12½	1½	1¼
8	15	8	25⅝	40¼	14	13½	1⅝	1½
9	16¼	9	27½	44¼	14	14	1⅝	1½
10	17½	10	30⅝	49¼	16	15	1⅝	1½
12	20½	12	39¼	58⅝	18	16	2	2
14	23	14	39½	64½	20	18	2⅛	2
15	24½	15	41	68¾	20	18¾	2 1/16	2
16	25½	16	44¾	74½	22	19½	2¼	3
18	28	18	47⅛	82¾	24	21	2⅜	3
20	30½	20	52	92	24	22½	2½	4
24	36	24	61¼	108	30	25½	2¾	4

WE RECOMMEND THAT VALVES 6" AND LARGER BE PROVIDED WITH BY-PASS.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY GATE VALVES

Semi Steel—250 Pounds Working Steam Pressure.
Cast Steel—See descriptions below.

Cast Steel Gate Valves may be made of any of the following combinations:

Class A { 350 pounds steam working pressure—800° F. total temperature. Cast Steel Body, Bonnet, Yoke and Disc—Sizes 2½ inch and larger, discs are faced with Monel Metal, 2 inch and smaller, solid Monel Metal Discs. Monel Metal Seats, Monel Metal Stem.

Class B { 350 pounds steam working pressure—800° F. total temperature. Cast Steel Body, Bonnet, Yoke and Disc—Sizes 2½ inch and larger, discs are faced with Monel Metal, 2 inch and smaller, solid Monel Metal Discs—Monel Metal Seats. Rolled Steel Stem.

Class C { 250 pounds steam working pressure—550° F. total temperature. Cast Steel Body and Disc—Sizes 2½ inch and larger, discs are faced with Monel Metal, 2 inch and smaller, solid Monel Metal Discs, Semi-Steel Bonnet and Yoke. Monel Metal Seats. Rolled Steel Stem.

Class D { 500 pounds Cold Water working pressure and 400 pounds Boiler Feed Lines. Cast Steel Body, Bonnet, Yoke and Disc—Sizes 2½ inch and larger, discs are faced with Hard Metal, 2 inch and smaller, solid Hard Metal Discs. Hard Metal Seats. Monel Metal Stem.

NOTE:—Classes A, B and D valves only are furnished with condensing chamber and pet cock.

For cut of Extra Heavy Valves see Table No. 32

Size	D	B	E	F		G	L	h	Sizes of By-Pass
				Semi-Steel	Cast Steel				
1¼	5	1¼	8¾	10⅝	12⅛	5	6½	¾	
1½	6	1½	9⅝	12¼	13⅞	5½	7½	11/16	
2	6½	2	10½	13¾	15⅜	6½	8½	⅞	
2½	7½	2½	12⅞	16	17⅞	7½	9½	1	
3	8¼	3	14⅝	19½	21⅜	9	11⅛	1⅛	
3½	9	3½	15½	22	24½	10	11⅞	1 3/16	
4	10	4	17¾	24½	27⅛	12	12	1¼	
4½	10½	4½	18¾	27	29½	12	13¼	1 5/16	
5	11	5	20¼	29¾	32½	14	15	1⅜	
6	12½	6	23	34⅛	37¼	16	15⅞	1 7/16	1¼
7	14	7	24¾	38	41	18	16¼	1½	1¼
8	15	8	28¾	42¾	46⅛	20	16½	1⅝	1½
9	16¼	9	30½	47	51½	20	17	1¾	1½
10	17½	10	33¾	52¾	57½	22	18	1⅞	1½
12	20½	12	37¼	60	64¾	24	19¾	2	2
14	23	14	42¾	67¾	71¾	24	22½	2⅛	2
15	24½	15	42¾	67¾	71¾	24	22½	2 3/16	2
16	25½	16		75¼	80⅛	27	24	2¼	3
18	28	18		82¼	87⅜	30	26	2⅜	3
20	30½	20		91½	96⅜	30	28	2½	4
22	33	22		101	109	36	29½	2⅝	4
24	36	24		113	120	36	31	2¾	4

We recommend that valves 8 inches and larger be provided with by-pass.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY GATE VALVES

Semi Steel—250 Pounds Working Steam Pressure.
Cast Steel—See descriptions below.

Cast Steel Gate Valves may be made of any of the following combinations:

Class A — 250 pounds steam working pressure—550° F. total temperature. Cast Steel Body, Bonnet, Yoke and Dies—Sizes 2½ inch and larger, discs are faced with Monel Metal, 2 inch and smaller, solid Monel Metal Discs. Monel Metal Seats, Monel Metal Stem.

Class B — 250 pounds steam working pressure—800° F. total temperature. Cast Steel Body, Bonnet, Yoke and Discs—Sizes 2½ inch and larger, discs are faced with Monel Metal, 2 inch and smaller, solid Monel Metal Discs—Monel Metal Seats. Rolled Steel Stem.

Class C — 250 pounds steam working pressure—1000° F. total temperature. Cast Steel Body and Discs—Sizes 2½ inch and larger, discs are faced with Monel Metal, 2 inch and smaller, solid Monel Metal Discs, Seam—Cast Steel Bonnet and Yoke. Monel Metal Seats. Rolled Steel Stem.

Class D — 600 pounds Cold Water working pressure and 400 pounds Boiler Feed Lines. Cast Steel Body, Bonnet Yoke and Dies—Sizes 2½ inch and larger, discs are faced with Hard Metal, 2 inch and smaller, solid Hard Metal Discs. Hard Metal Seats. Monel Metal Stem.

NOTE—Classes A, B and D valves only are furnished with opposing wheels and pet cock.

For cut of Extra Heavy Valves see Table No. 32

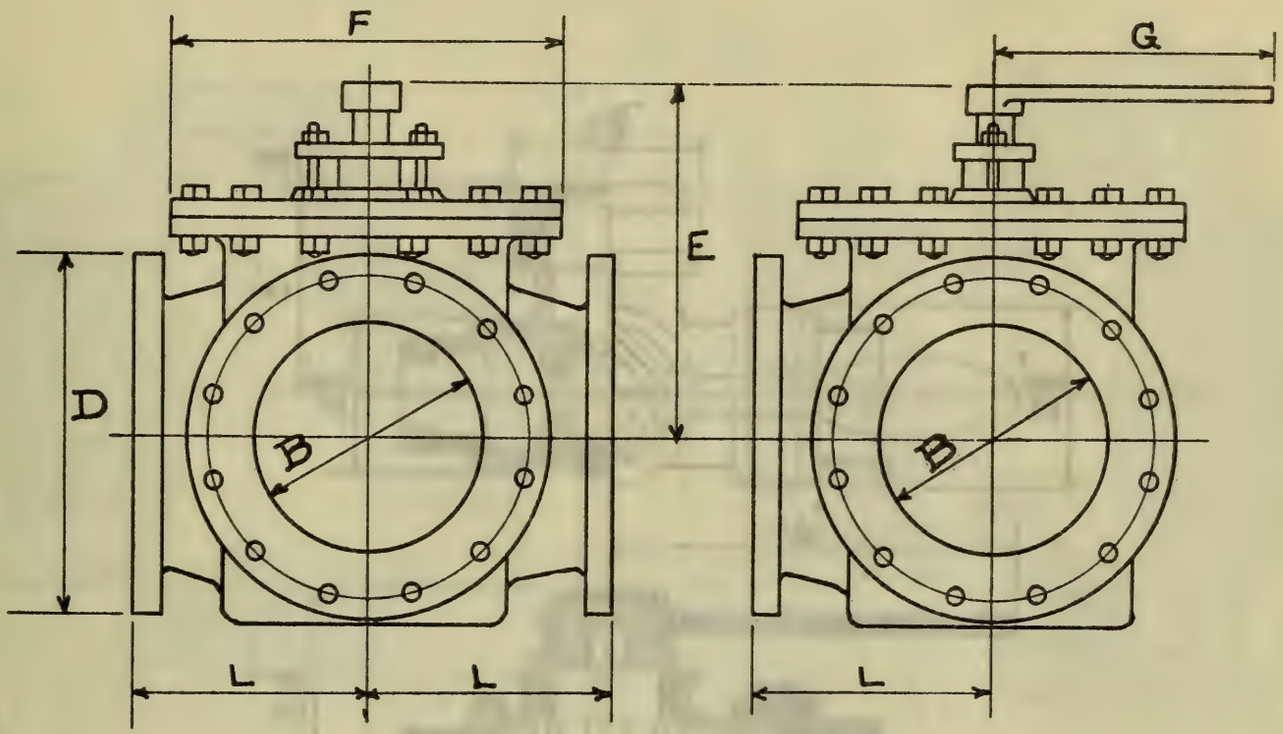
Size	D	S	E	F		G	L	h	Sizes of By-Pass
				Screwed Ends	Cast Ends				
1¼	3	1¼	8¾	10⅝	12½	5	6¼	¾	
1½	6	1¼	9⅝	12¼	13⅞	5¾	7¼	1	
2	6¾	2	10½	13¾	15⅝	6½	8¼	1¼	
2½	7½	2½	12⅞	16	17⅞	7½	9¼	1	
3	8¼	3	14¾	16¼	21¼	9	11¼	1½	
3½	9	3½	16¾	22	23¼	10	11¾	1½	
4	10	4	17½	24¼	27½	12	12	1¼	
4½	10½	4½	19¼	27	29½	13	13¼	1½	
5	11	5	20¼	27½	32½	14	13	1½	
6	12½	6	23	34¼	37¼	16	14¾	1½	1¼
7	14	7	24¼	38	41	18	16¼	1¼	1¼
8	15	8	26¼	42¼	46¼	20	16¾	1½	1¼
9	16¼	9	30¼	47	51¾	20	17	1¾	1¼
10	17½	10	31¼	50¼	57½	22	18	1¾	1¼
12	20¼	12	37¼	60	64¾	24	19¼	2	2
14	23	14	42¾	67¼	71¾	24	19¾	2	2
15	24½	15	42¾	69¼	74¾	24	22½	2¼	2
16	25½	16		73¼	80½	27	24	2½	3
18	28	18		78¼	87¾	30	25	2¾	3
20	30¾	20		91½	98¾	30	28	2¾	4
22	33	22		101	109	36	28¾	2¾	4
24	36	24		113	120	36	31	2¾	4

We recommend that valves 6 inches and larger be provided with by-pass.

PITTSBURGH PIPING & EQUIPMENT CO.

TRANSFER VALVES

FOR STEAM WORKING PRESSURES UP TO 125 LBS.



SIZE	D	B	L	E	F	G
4	9	4	6½	10	10	8
4½	9¼	4½	7	10½	10	8
5	10	5	7½	11	11	8
6	11	6	8	12	12	8
7	12½	7	8½	13¾	13	8
8	13½	8	9	15¼	15	10
9	15	9	10	15½	16	10
10	16	10	11	15¾	16½	12
12	19	12	12	16¼	19¾	14
14	21	14	14	19½	23¼	14
15	22¼	15	14½	21	25½	16
16	23½	16	15	22	27½	16
18	25	18	16½	26¼	29½	20
20	27½	20	18	27½	32½	22
22	29½	22	20	29	34½	24
24	32	24	22	30½	37	24

PITTSBURGH PIPING & EQUIPMENT CO.

TRANSFER VALVES

FOR STEAM WORKING PRESSURES UP TO 125 LBS.

SIZE	D	B	L	E	F	G
4	9	4	6½	10	10	8
4½	9¼	4½	7	10½	10	8
5	10	5	7½	11	11	8
6	11	6	8	12	12	8
7	12½	7	8½	13½	13	8
8	13½	8	9	15½	15	10
9	15	9	10	15½	16	10
10	16	10	11	15½	16½	12
12	19	12	12	16½	19½	14
14	21	14	14	19½	23½	14
15	22½	15	14½	21	25½	16
16	23½	16	15	22	27½	16
18	25	18	16½	26½	29½	20
20	27½	20	18	27½	32½	22
22	29½	22	20	29	34½	24
24	32	24	22	30½	37	24

PITTSBURGH PIPING & EQUIPMENT CO.

1¼" BRONZE TUYERE COCKS

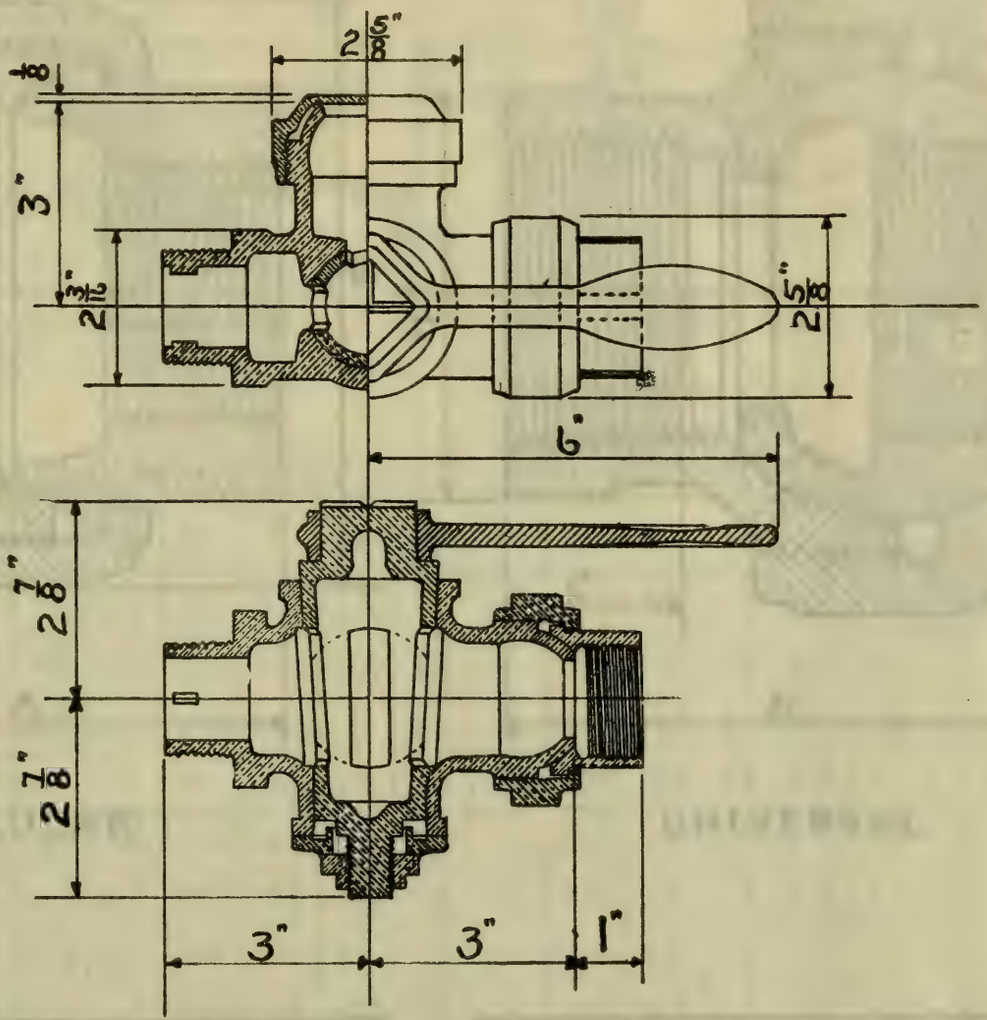


Illustration shows right hand cock which will be furnished unless otherwise specified.

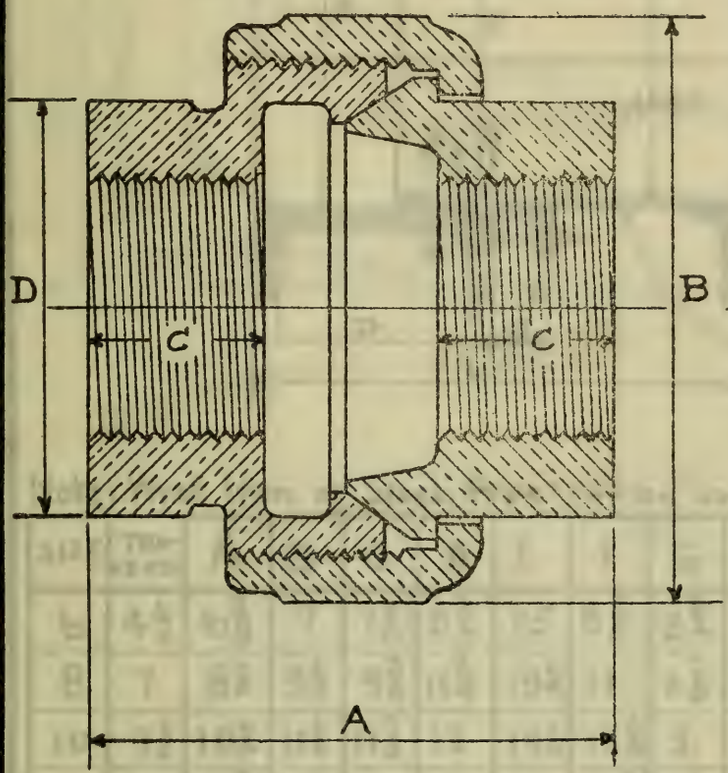
PITTSBURGH PIPING & EQUIPMENT CO.

1¼" BRONZE TUYERE COCKS

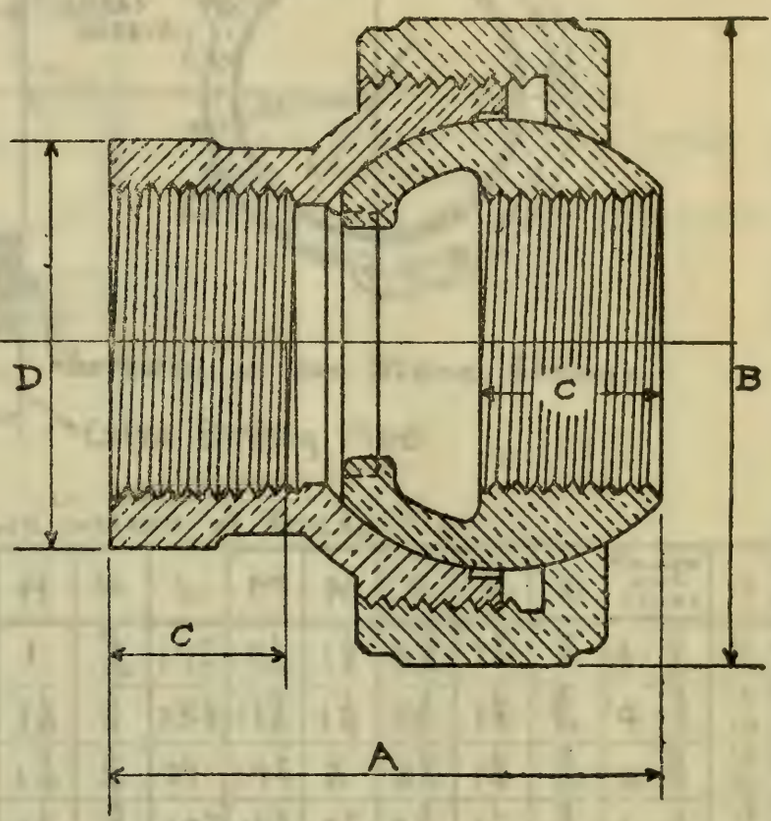
Illustration shows right hand cock which will be furnished unless otherwise specified.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY BRASS UNIONS



REGULAR



UNIVERSAL

SIZE	A	B	C	D
$\frac{1}{2}$	$1\frac{35}{64}$	$1\frac{5}{8}$	$\frac{9}{16}$	$1\frac{1}{16}$
$\frac{3}{4}$	$1\frac{49}{64}$	2	$\frac{5}{8}$	$1\frac{3}{8}$
1	$2\frac{1}{32}$	$2\frac{9}{32}$	$\frac{11}{16}$	$1\frac{5}{8}$
$1\frac{1}{4}$	$2\frac{5}{32}$	$2\frac{5}{8}$	$\frac{3}{4}$	2
$1\frac{1}{2}$	$2\frac{13}{32}$	$2\frac{15}{16}$	$\frac{7}{8}$	$2\frac{1}{4}$
2	$2\frac{9}{16}$	$3\frac{9}{16}$	1	$2\frac{13}{16}$

SIZE	A	B	C	D
$\frac{1}{2}$	$1\frac{13}{16}$	2	$\frac{1}{2}$	$1\frac{1}{8}$
$\frac{3}{4}$	$1\frac{7}{8}$	$2\frac{1}{8}$	$\frac{5}{8}$	$1\frac{1}{2}$
1	$2\frac{1}{4}$	$2\frac{1}{2}$	$\frac{3}{4}$	$1\frac{3}{4}$
$1\frac{1}{4}$	$2\frac{13}{16}$	$3\frac{1}{16}$	$\frac{13}{16}$	$2\frac{1}{8}$
$1\frac{1}{2}$	$2\frac{7}{8}$	$3\frac{3}{8}$	$\frac{13}{16}$	$2\frac{7}{16}$
2	$3\frac{3}{16}$	$4\frac{1}{4}$	$\frac{13}{16}$	$2\frac{15}{16}$

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA HEAVY BRASS UNIONS

UNIVERSAL

REGULAR

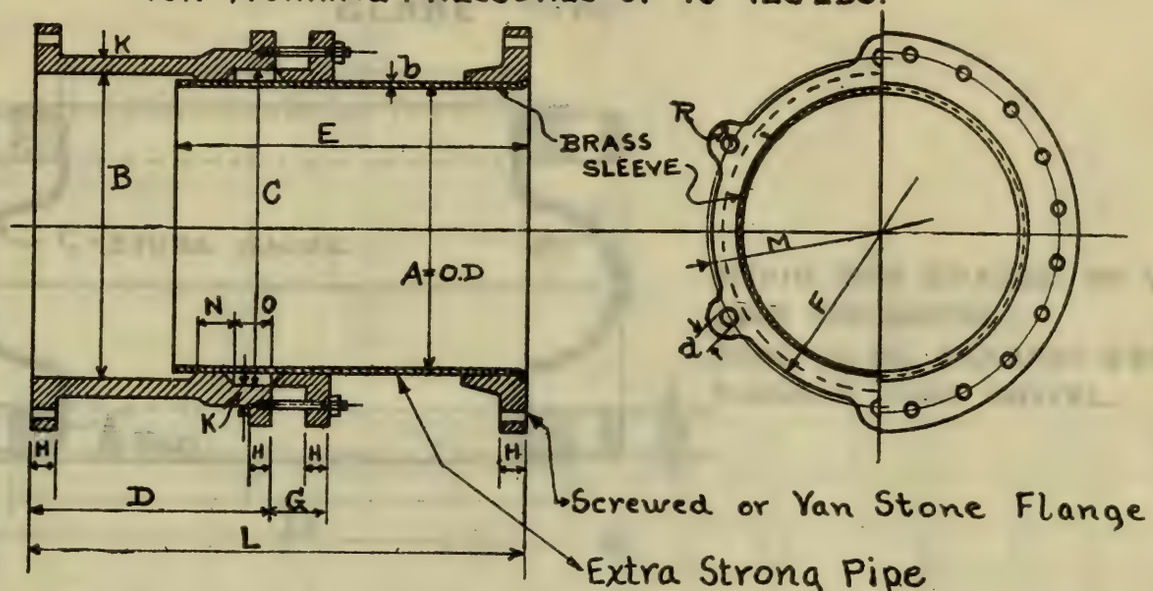
SIZE	A	B	C	D
¼	1 1/16	2	⅝	1⅛
⅜	1 ⅛	2 ⅛	¾	1⅜
½	2 ¼	2 ½	⅞	1⅝
¾	2 13/16	3 ⅛	1	2⅛
1	2 ⅞	3 ⅜	1 ⅛	2 ⅝
1¼	3 5/16	4 ¼	1 ⅜	2 15/16

SIZE	A	B	C	D
¼	1 ⅝	1 ⅛	⅝	1⅛
⅜	1 13/16	2	¾	1⅜
½	2 ⅛	2 ⅜	⅞	1⅝
¾	2 ⅜	2 ¾	1	2
1	2 ⅝	2 ⅞	1 ⅛	2 ⅜
1¼	3 ⅛	3 ⅜	1 ⅜	2 ¾

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD IRON BODY EXPANSION JOINT

FOR WORKING PRESSURES UP TO 125 LBS.



Note: Wrot Iron or Steel Pipe can be used instead of Brass Pipe

SIZE	TRAVERSE	A	B	C	D	E	F	G	H	K	L	M	N	O	R	b	No AND SIZE STUDS	d
6	4 1/2	6 3/8	7	7 1/2	8 3/4	15	8 5/8	2 3/4	1	9/16	19 1/2	9 1/2	1 1/2	2 3/8	1 1/8	1/4	4 - 5/8	11/16
8	7	8 1/2	9 1/8	9 3/4	11 3/4	18 1/4	11	2 7/8	1 1/8	5/8	25 1/4	11 3/4	1 3/4	2 3/8	1 1/4	5/16	4 - 3/4	13/16
10	7 1/2	10 1/2	11 1/8	11 7/8	13	19 1/4	13 1/4	3	1 3/16	3/4	27	14 1/4	2	2 1/2	1 1/4	5/16	6 - 3/4	13/16
12	8	12 5/8	13 1/4	14	15	21	14 5/8	3 1/4	1 1/4	13/16	30 1/4	16 1/2	2 1/8	2 5/8	1 1/4	3/8	6 - 3/4	13/16
14	10	13 7/8	14 1/2	15 3/8	16 1/4	23 1/2	16 7/8	3 3/8	1 3/8	7/8	33 3/4	18	2 1/4	2 3/4	1 3/8	3/8	6 - 7/8	15/16
15	10	14 7/8	15 1/2	16 3/8	16 1/2	23 3/4	17 7/8	3 3/8	1 3/8	7/8	34	19	2 3/8	2 3/4	1 3/8	3/8	6 - 7/8	15/16
16	10	15 7/8	16 1/2	17 3/8	16 1/2	24	19	3 1/2	1 7/16	1	34 1/4	20	2 3/8	2 3/4	1 3/8	3/8	6 - 7/8	15/16
18	10	17 7/8	18 1/2	19 1/2	16 1/2	24 1/4	21 1/8	3 5/8	1 9/16	1 1/16	34 1/2	22 1/4	2 3/8	2 3/4	1 1/2	3/8	6 - 1	1 1/16
20	10	19 7/8	20 1/2	21 1/2	16 1/2	24 1/2	23 1/4	3 3/4	1 11/16	1 1/8	34 3/4	24 1/4	2 1/2	2 3/4	1 1/2	3/8	6 - 1	1 1/16
22	10	21 7/8	22 5/8	23 1/2	16 3/4	25	25 3/8	3 7/8	1 13/16	1 3/16	35 1/4	26 1/4	2 1/2	2 7/8	1 1/2	7/16	8 - 1	1 1/16
24	10	23 7/8	24 5/8	25 1/2	17	25 1/2	27 1/2	4	1 7/8	1 1/4	35 3/4	28 1/4	2 1/2	2 7/8	1 1/2	7/16	8 - 1	1 1/16
26	10	25 7/8	26 5/8	27 3/4	17 1/4	26 1/4	29 7/8	4 1/4	2	1 5/16	36 1/2	30 3/4	2 5/8	3	1 1/2	7/16	8 - 1 1/8	1 3/16
28	10	27 7/8	28 3/4	29 3/4	17 1/2	26 3/4	32	4 3/8	2 1/16	1 3/8	37	32 3/4	2 3/4	3 1/8	1 1/2	7/16	8 - 1 1/8	1 3/16
30	12	29 7/8	30 3/4	32	20	29 1/2	34 1/4	4 1/2	2 1/8	1 1/2	42	35	3	3 1/4	1 3/4	1/2	8 - 1 1/4	1 5/16

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD IRON BODY EXPANSION JOINT

FOR WORKING PRESSURES UP TO 125 LBS.

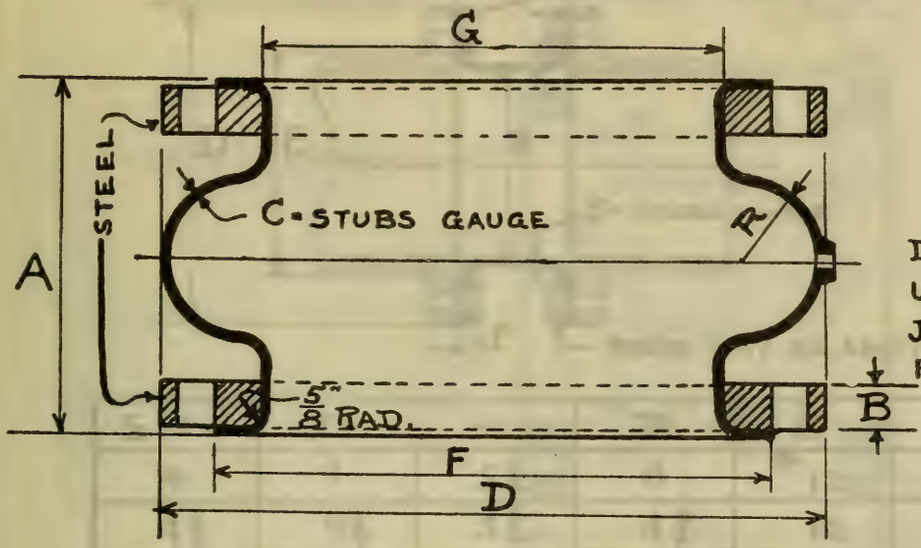
Note: Wrot Iron or Steel Pipe can be used instead of Brass Pipe

SIZE	TRAVEL	A	B	C	D	E	F	G	H	K	L	M	N	O	R	S	T	d
6	4½	6⅝	7	12½	10¾	15	8⅝	2¼	1	1/16	19¼	9½	1½	2⅜	1⅛	¼	A-⅜	11/16
8	7	8⅝	9⅜	14⅜	11⅞	18⅜	11	2⅝	1⅜	⅛	25¼	11⅜	1¾	2⅜	1¼	5/16	A-¾	13/16
10	7½	10⅜	11½	16⅜	13	19¼	13¼	3	1⅝	¼	27	14¼	2	2½	1¼	5/16	C-¾	13/16
12	8	12⅝	13½	18¾	15	21	14⅜	3¼	1¾	5/16	32¾	16½	2⅜	2⅝	1⅜	⅜	C-⅞	15/16
14	10	13⅝	14½	15⅝	16½	23½	16⅜	3⅝	1⅞	⅜	35⅜	16	2½	2¾	1⅝	3/8	C-1⅛	1 1/16
15	10	14⅝	15½	16⅝	16½	23½	17⅜	3⅝	1⅞	⅜	34	14	2½	2¾	1⅝	3/8	C-1⅛	1 1/16
16	10	15⅝	16½	17⅝	16½	24	19	3½	1⅞	1	34½	20	2½	2¾	1⅝	⅜	C-1⅛	1 1/16
18	10	17⅝	18⅝	19½	16½	24⅝	21⅜	3⅝	1⅞	1 1/16	34½	22¼	2⅝	2¾	1½	⅜	C-1	1 1/16
20	10	19⅝	20½	21½	16½	24½	23¼	3⅝	1⅞	1 1/16	34¾	24¼	2½	2¾	1½	⅜	B-1	1 1/16
22	10	21⅝	22½	23½	16½	25	25⅝	3⅝	1⅞	1 1/16	35¼	26¼	2½	2¾	1½	⅜	B-1	1 1/16
24	10	23⅝	24½	25½	17	25½	27½	4	1⅞	1 1/16	35½	28¼	2½	2¾	1½	⅜	B-1	1 1/16
26	10	25⅝	26½	27½	17½	26½	29⅝	4¼	2	1 1/16	36½	30¼	2½	3	1½	⅜	B-1⅛	1 1/16
28	10	27⅝	28½	29½	17½	26½	32	4⅝	2 1/16	1⅛	37	32¼	2½	3⅛	1½	⅜	B-1⅛	1 1/16
30	12	29½	30½	32	20	29½	34¼	4⅝	2⅛	1⅛	42	35	3	3¼	1¾	½	B-1⅛	1 1/16

PITTSBURGH PIPING & EQUIPMENT CO.

LOW PRESSURE COPPER EXPANSION JOINT

GLOBE TYPE



DRAIN PAD BRAZED ON WHEN USED HORIZONTAL.
JOINT TO BE SCARFED & BRAZED.
FLANGES MUST SWIVEL.

SIZE	D	A	G	F	R	C	B	DRAIN
4	9	8	4 1/2	6 5/8	2	# 12	15/16	1/2
4 1/2	9 1/4	8	5	6 3/4	2	12	15/16	1/2
5	10	9	5 9/16	7 1/2	2	12	15/16	3/4
6	11	9	6 5/8	8 1/2	2	12	1	3/4
7	12 1/2	10	7 5/8	9 3/4	2 1/2	# 12	1 1/8	3/4
8	13 1/2	10	8 5/8	10 3/4	2 1/2	12	1 1/8	3/4
9	15	11	9 5/8	12 1/4	2 1/2	12	1 1/8	3/4
10	16	11	10 3/4	13 1/8	2 5/8	12	1 1/8	3/4
12	19	11	12 3/4	15 7/8	2 5/8	# 12	1 1/4	3/4
14	21	12	14	17 1/2	2 3/4	10	1 3/8	3/4
15	22 1/4	12	15	18 3/4	2 3/4	10	1 3/8	1
16	23 1/2	12	16	20	2 3/4	10	1 1/2	1
18	25	13	18	21 3/8	2 7/8	# 10	1 1/2	1
20	27 1/2	13	20	23 5/8	2 7/8	10	1 1/2	1 1/4
22	29 1/2	14	22	25 3/4	3	8	1 1/2	1 1/4
24	32	14	24	28	3	8	1 1/2	1 1/4
26	34 1/4	15	26	30 1/4	3 1/8	# 8	1 7/8	1 1/4
28	36 1/2	15	28	32 1/2	3 1/8	7	1 7/8	1 1/4
30	38 3/4	16	30	34 3/8	3 1/4	7	1 7/8	1 1/2
32	41 3/4	16	32	36 3/4	3 1/4	6	1 7/8	1 1/2
34	43 3/4	17	34	38 3/4	3 1/2	# 6	1 7/8	1 1/2
36	46	17	36	41	3 1/2	6	1 7/8	1 1/2
38	48 3/4	18	38	43 3/8	3 3/4	5	1 7/8	1 1/2
40	50 3/4	18	40	45 3/8	3 3/4	5	1 7/8	1 1/2
42	53	19	42	47 5/8	4	# 4	1 7/8	2
44	55 1/4	19	44	49 7/8	4	4	1 7/8	2
46	57 1/4	20	46	51 7/8	4 1/4	3	1 7/8	2
48	59 1/2	20	48	54 1/8	4 1/4	3	1 7/8	2

PITTSBURGH PIPING & EQUIPMENT CO.

LOW PRESSURE COPPER EXPANSION JOINT

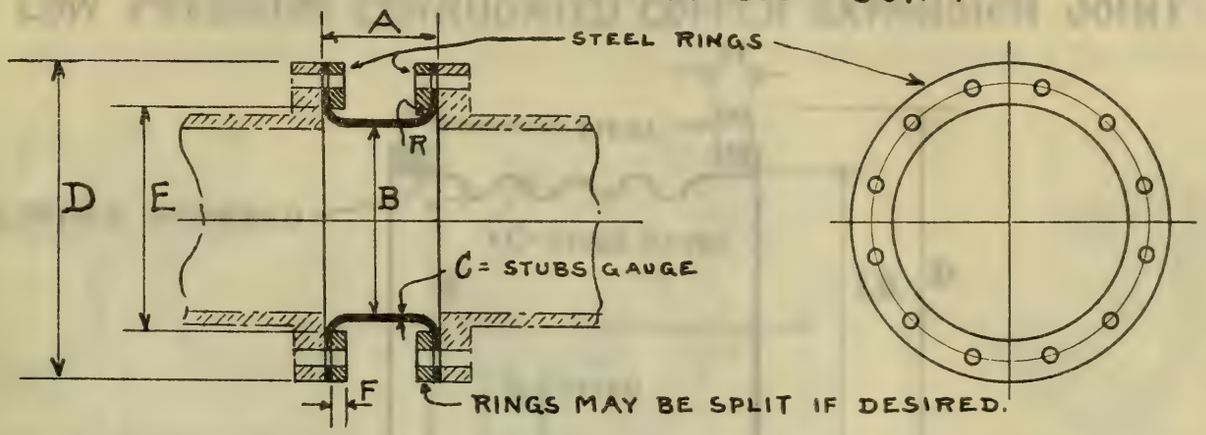
GLOBE TYPE

DRAIN PAD BRAZED ON WHEN USED HORIZONTAL.
JOINT TO BE SCARFED & BRAZED.
FLANGES MUST SWIVEL.

SIZE	D	A	F	B	C	TH	DRAIN
1	4	5	1 5/8	4 1/2	2 1/2	2	1/2
1 1/2	4 3/4	6	2 1/4	5	2 1/2	2	1/2
2	5 1/2	7	2 3/4	5 1/2	3	2	1/2
2 1/2	6 1/2	8	3 1/4	6 1/2	3 1/2	2	1/2
3	7 1/2	9	3 3/4	7 1/2	4	2	1/2
3 1/2	8 1/2	10	4 1/4	8 1/2	4 1/2	2	1/2
4	9 1/2	11	4 3/4	9 1/2	5	2	1/2
4 1/2	10 1/2	12	5 1/4	10 1/2	5 1/2	2	1/2
5	11 1/2	13	5 3/4	11 1/2	6	2	1/2
6	13 1/2	15	6 3/4	13 1/2	7	2	1/2
7	15 1/2	17	7 3/4	15 1/2	8	2	1/2
8	17 1/2	19	8 3/4	17 1/2	9	2	1/2
9	19 1/2	21	9 3/4	19 1/2	10	2	1/2
10	21 1/2	23	10 3/4	21 1/2	11	2	1/2
12	25 1/2	27	12 3/4	25 1/2	13	2	1/2
14	28	30	14	28	14	3	1/2
15	30	32	15	30	15	3	1/2
16	32	34	16	32	16	3	1/2
18	36	38	18	36	18	3	1/2
20	40	42	20	40	20	3	1/2
24	48	50	24	48	24	3	1/2

PITTSBURGH PIPING & EQUIPMENT CO.

VACUUM COPPER EXPANSION JOINT



SIZE	D	A	B	C	E	F	R
4	9	5 1/2	4	# 12	6	3/8	5/8
4 1/2	9 1/4	5 1/2	4 1/2	12	6 1/4	3/8	5/8
5	10	5 1/2	5	12	7	3/8	3/4
6	11	6	6	12	8	7/16	3/4
7	12 1/2	6	7	# 12	9	7/16	3/4
8	13 1/2	6	8	12	10	7/16	3/4
9	15	6	9	12	11 1/4	7/16	1
10	16	6	10	12	12 1/2	1/2	1
12	19	6	12	# 12	15	1/2	1
14	21	6	14	10	16 1/2	1/2	1
15	22 1/4	6	15	10	17 3/4	1/2	1 1/8
16	23 1/2	6	16	10	19	1/2	1 1/8
18	25	6 1/2	18	# 10	20 1/2	5/8	1 1/8
20	27 1/2	6 1/2	20	10	22 1/2	5/8	1 1/8
22	29 1/2	7	22	8	25	3/4	1 1/4
24	32	7	24	8	27	3/4	1 1/4
26	34 1/4	8	26	# 8	29 1/4	3/4	1 3/8
28	36 1/2	8	28	7	31 1/2	3/4	1 3/8
30	38 3/4	8 1/2	30	7	33 1/4	7/8	1 3/8
32	41 3/4	8 1/2	32	6	35 1/4	7/8	1 1/2
34	43 3/4	8 1/2	34	# 6	37 1/4	7/8	1 1/2
36	46	8 1/2	36	6	39 1/2	1	1 5/8
38	48 3/4	9	38	5	41 3/4	1	1 5/8
40	50 3/4	9	40	5	43 3/4	1	1 5/8
42	53	9	42	# 4	46	1 1/8	1 3/4
44	55 1/4	9	44	4	48 1/4	1 1/8	1 3/4
46	57 1/4	9	46	3	50 1/4	1 1/8	1 3/4
48	59 1/2	9	48	3	52 1/2	1 1/4	1 7/8

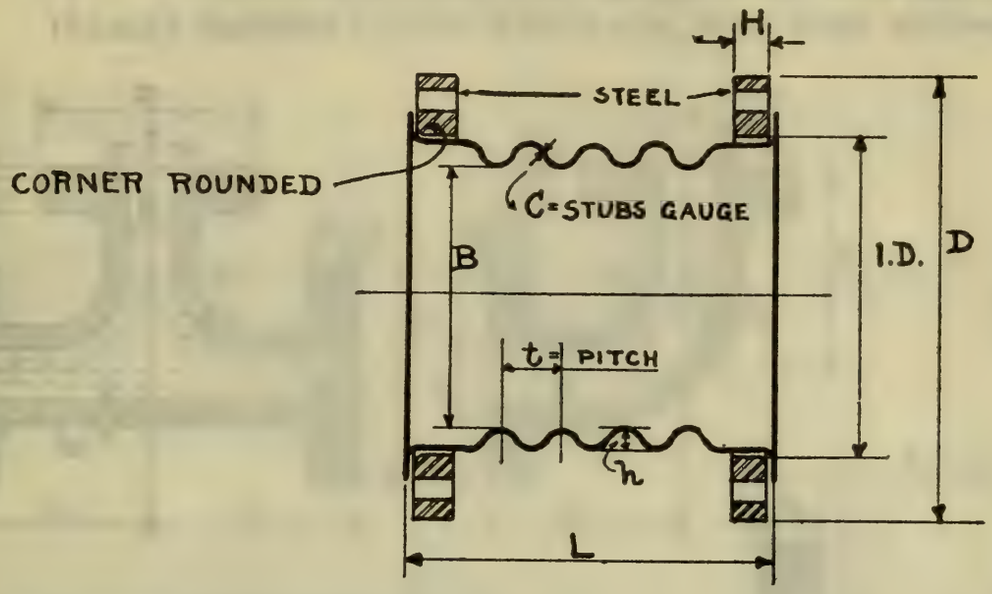
PITTSBURGH PIPING & EQUIPMENT CO.

VACUUM COPPER EXPANSION JOINT

Size	D	A	B	C	E	F
4	4	5½	4	12	6	¼
4½	4½	5½	4½	12	6½	⅜
5	10	5½	5	12	7	½
6	11	6	6	12	8	½
7	12½	6	7	12	9	⅝
8	13½	6	8	12	10	¾
9	15	6	9	12	11½	⅞
10	16	6	10	12	12½	1
12	17	6	12	12	15	1
14	21	6	14	10	16½	1
15	22½	6	15	10	17½	1⅛
16	23½	6	16	10	19	1⅛
18	25	6½	18	10	20½	1⅛
20	27½	6½	20	10	22½	1⅛
22	29½	7	22	8	25	1¼
24	32	7	24	8	27	1¼
26	34½	8	26	8	29½	1⅜
28	36½	8	28	7	31½	1⅜
30	38½	8½	30	7	33½	1⅜
32	41½	8½	32	6	35½	1½
34	43½	8½	34	6	37½	1½
36	46	8½	36	6	39½	1½
38	48½	9	38	5	41½	1½
40	50½	9	40	5	43½	1½
42	53	9	42	4	46	1⅝
44	55½	9	44	4	48½	1⅝
46	57½	9	46	3	50½	1⅝
48	59½	9	48	3	52½	1⅝

PITTSBURGH PIPING & EQUIPMENT CO.

LOW PRESSURE CORRUGATED COPPER EXPANSION JOINT



SIZE	D	L	B	I.D.	t	h	C	H	MAX MOVE
4	9	8 5/8	4	5	1 3/8	1/2	#16	15/16	1/2
4 1/2	9 1/4	8 5/8	4 1/2	5 1/2	1 3/8	1/2	16	15/16	1/2
5	10	8 5/8	5	6	1 3/8	1/2	16	15/16	1/2
6	11	8 5/8	6	7	1 3/8	1/2	16	1	1/2
7	12 1/2	8 5/8	7	8	1 3/8	1/2	#16	1 1/8	1/2
8	13 1/2	8 5/8	8	9	1 3/8	1/2	16	1 1/8	1/2
9	15	8 5/8	9	10	1 3/8	1/2	16	1 1/8	1/2
10	16	8 5/8	10	11	1 3/8	1/2	16	1 1/8	1/2
12	19	8 5/8	12	13	1 3/8	1/2	#16	1 1/4	1/2
14	21	10 1/2	14	15 1/4	1 3/4	5/8	16	1 3/8	1/2
15	22 1/4	10 1/2	15	16 1/4	1 3/4	5/8	16	1 3/8	1/2
16	23 1/2	10 1/2	16	17 1/4	1 3/4	5/8	16	1 1/2	1/2
18	25	12 3/4	18	19 3/4	2 1/4	7/8	#16	1 1/2	1/2
20	27 1/2	12 3/4	20	21 3/4	2 1/4	7/8	16	1 1/2	1/2
22	29 1/2	12 3/4	22	23 3/4	2 1/4	7/8	16	1 1/2	1/2
24	32	12 3/4	24	25 3/4	2 1/4	7/8	16	1 1/2	1/2
26	34 1/4	17	26	28 1/4	3	1 1/8	#16	1 1/8	1/2
28	36 1/2	17	28	30 1/4	3	1 1/8	16	1 1/8	1/2
30	38 3/4	17	30	32 1/4	3	1 1/8	16	1 1/8	1/2
32	41 3/4	17	32	34 1/4	3	1 1/8	16	1 1/8	1/2
34	43 3/4	17	34	36 1/4	3	1 1/8	#15	1 1/8	1/2
36	46	17	36	38 1/4	3	1 1/8	15	1 1/8	1/2
38	48 3/4	17	38	40 1/4	3	1 1/8	15	1 1/8	1/2
40	50 3/4	17	40	42 1/4	3	1 1/8	15	1 1/8	1/2
42	53	17	42	44 1/4	3	1 1/8	#15	1 1/8	1/2
44	55 1/4	17	44	46 1/4	3	1 1/8	15	1 1/8	1/2
46	57 1/4	17	46	48 1/4	3	1 1/8	14	1 1/8	1/2
48	59 1/2	17	48	50 1/4	3	1 1/8	14	1 1/8	1/2

PITTSBURGH PIPING & EQUIPMENT CO.

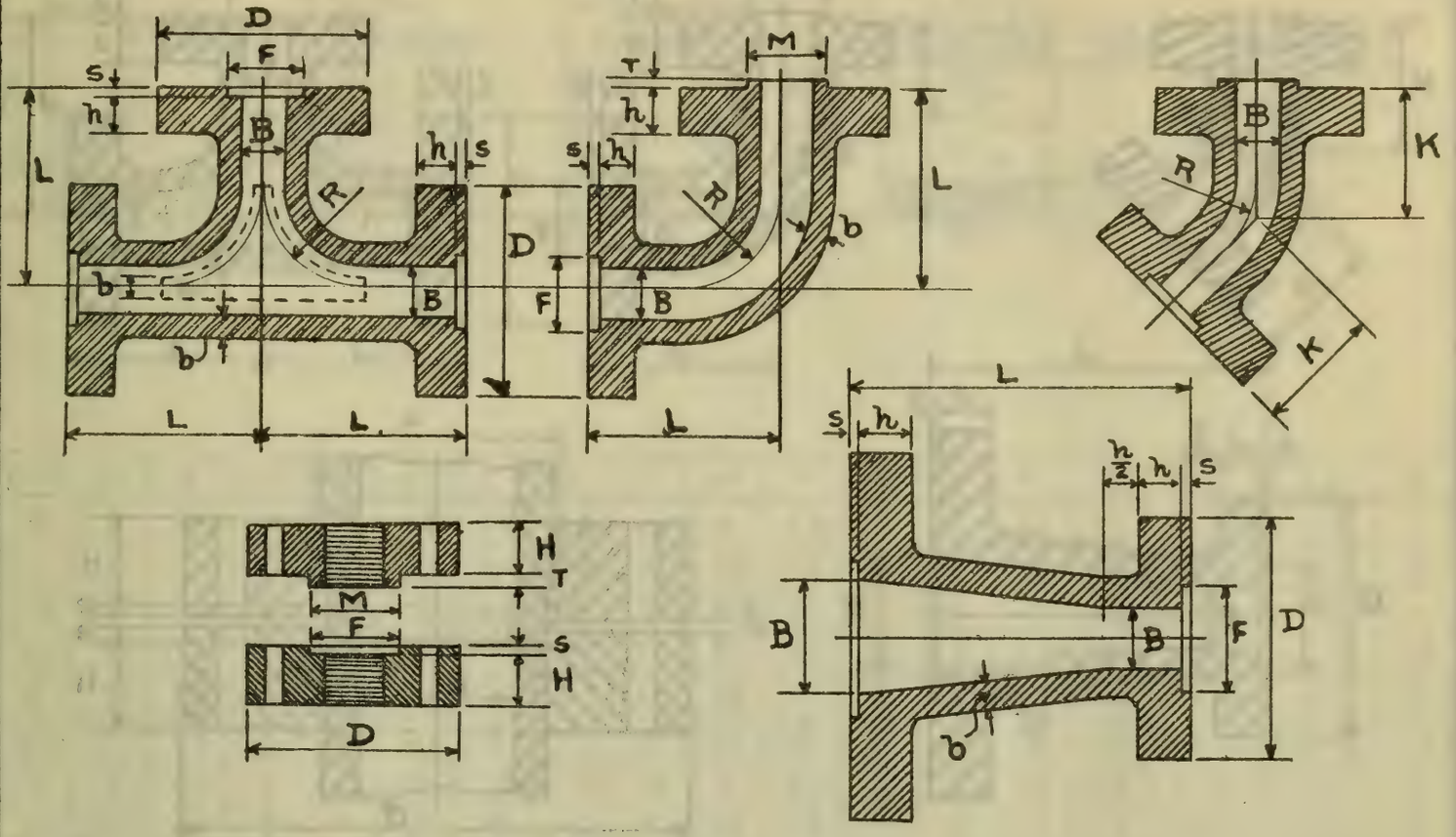
LOW PRESSURE CORRUGATED COPPER EXPANSION JOINT

SIZE	D	L	B	I.D.	t	N	C	H	Max Move
4	4	8½	4	5	1⅛	⅜	16*	1⅝	¼
4½	4¼	8⅝	4½	5¼	1⅛	⅜	16	1⅝	¼
5	10	8⅝	5	6	1⅛	⅜	16	1⅝	¼
6	11	8⅝	6	7	1¼	⅜	16	1	¼
7	12½	8½	7	8	1⅜	½	16*	1⅜	¼
8	13½	8⅝	8	9	1⅜	½	16	1⅜	¼
9	15	8⅝	9	10	1⅜	½	16	1⅜	¼
10	16	8⅝	10	11	1⅜	½	16	1⅜	¼
12	19	8⅝	12	13	1⅜	½	16*	1¾	¼
14	21	10½	14	15¼	1½	⅝	16	1⅝	¼
15	22½	10½	15	16¼	1⅝	⅝	16	1⅝	¼
16	23½	10½	16	17¼	1⅝	⅝	16	1⅝	¼
18	25	12½	18	19¼	2¼	⅝	16*	1½	¼
20	27⅛	12⅝	20	21½	2¼	⅝	16	1½	¼
22	29½	12⅝	22	23½	2¼	⅝	16	1½	¼
24	32	12½	24	25⅝	2¼	⅝	16	1½	¼
26	34⅝	17	26	28¼	3	1⅛	16*	1⅝	⅜
28	36½	17	28	30¼	3	1⅛	16	1⅝	⅜
30	38⅝	17	30	32¼	3	1⅛	16	1⅝	⅜
32	41⅝	17	32	34¼	3	1⅛	16	1⅝	⅜
34	43⅝	17	34	36¼	3	1⅛	15*	1⅝	⅜
36	46	17	36	38¼	3	1⅛	15	1⅝	⅜
38	48⅝	17	38	40¼	3	1⅛	15	1⅝	⅜
40	50⅝	17	40	42¼	3	1⅛	15	1⅝	⅜
42	53	17	42	44¼	3	1⅛	15*	1⅝	⅜
44	55¼	17	44	46¼	3	1⅛	15	1⅝	⅜
46	57¼	17	46	48¼	3	1⅛	14	1⅝	⅜
48	59½	17	48	50¼	3	1⅛	14	1⅝	⅜

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC FLANGED FITTINGS & FLANGES

1000 LBS. PRESSURE – EXTRA STRONG PIPE, SEMI STEEL FITTINGS & FLANGES

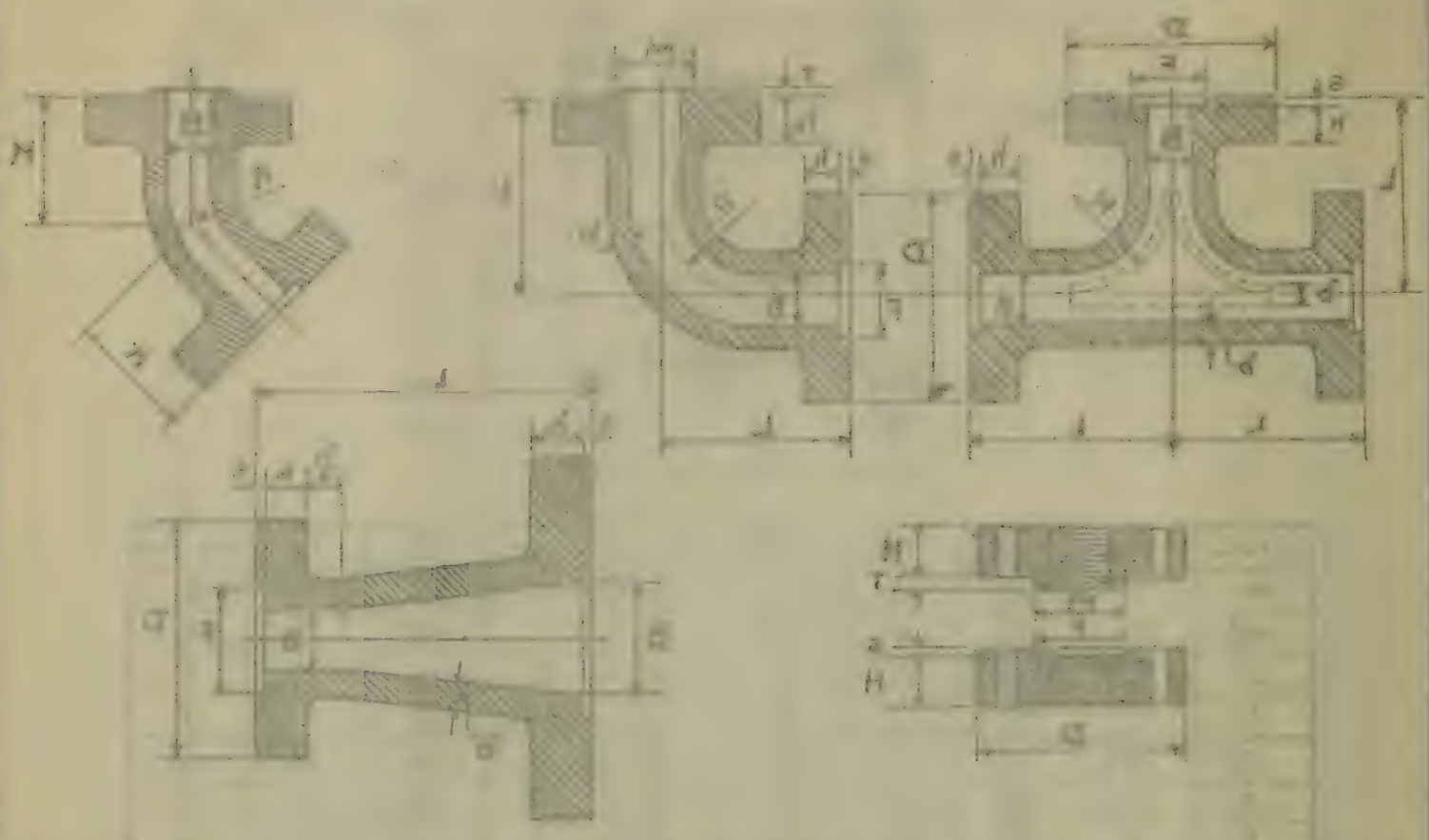


SIZE	D	B	HOLES No.	HOLES SIZE	HOLES B.C.	L	K	R	S	T	M	F	b	H	h
3/4	5	1/2	4	11/16	3 1/2	5 1/4	3 1/2	2 1/2	3/16	1/4	1 3/4	1 13/16	7/16	1 1/2	7/8
1	5 1/4	5/8	4	11/16	3 3/4	5 1/2	3 1/2	2 3/4	3/16	1/4	2 1/4	2 5/16	1/2	1 11/16	1
1 1/4	5 1/2	7/8	4	11/16	4	6	3 1/2	3	3/16	1/4	2 1/2	2 9/16	5/8	1 13/16	1 1/4
1 1/2	6 1/2	1 1/8	4	13/16	4 3/4	6 1/2	3 3/4	3 1/4	3/16	1/4	3	3 1/16	5/8	1 7/8	1 1/4
2	7 1/2	1 1/2	4	15/16	5 1/2	7	4	3 1/2	3/16	1/4	3 1/2	3 9/16	3/4	2	1 3/8
2 1/2	8	1 3/4	8	13/16	6 1/4	7 1/2	4 1/2	3 3/4	1/4	5/16	4	4 1/16	7/8	2 5/16	1 5/8
3	8 1/2	2 1/4	8	13/16	6 3/4	8	5	4 1/2	1/4	5/16	4 3/4	4 13/16	1	2 7/16	1 7/8
3 1/2	9 1/2	2 3/4	8	15/16	7 1/2	8 1/2	5 1/2	5	1/4	5/16	5 1/4	5 5/16	1 1/8	2 5/8	2
4	10 1/2	3 1/8	8	15/16	8 1/2	9	6	5 3/4	1/4	5/16	6	6 1/16	1 1/4	2 3/4	2 1/4
4 1/2	11 3/4	3 5/8	8	1 1/16	9 1/4	9 3/4	6 1/4	6 7/8	1/4	5/16	6 5/8	6 11/16	1 3/8	3	2 3/8
5	13	4 1/8	8	1 3/16	10 5/8	10 1/2	6 1/2	6 1/2	1/4	5/16	7 1/4	7 5/16	1 1/2	3 1/4	2 1/2
6	14 1/2	4 7/8	8	1 5/16	11 7/8	11 1/2	7	7 1/4	1/4	5/16	8 1/2	8 9/16	1 5/8	3 3/8	2 3/4
7	16 1/4	5 7/8	12	1 5/16	13 5/8	12 1/2	7 3/4	8	1/4	5/16	9 5/8	9 11/16	2	3 1/2	2 7/8
8	18 1/2	6 7/8	12	1 5/16	15 7/8	13 1/2	8 1/2	9	1/4	5/16	10 5/8	10 11/16	2 1/8	3 5/8	3
10	21	8 3/4	20	1 5/16	17 3/4	16	9 1/2	11	1/4	5/16	13	13 1/16	2 1/4	4	3 3/8
12	23 1/2	10 3/4	20	1 7/16	20 3/8	19	11	13 1/2	1/4	5/16	15 1/4	15 5/16	2 1/4	4 1/2	3 3/4

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC FLANGED FITTINGS & FLANGES

100 LBS. PRESSURE – EXTRA STRONG PIPE, SEMI STEEL FITTINGS & FLANGES

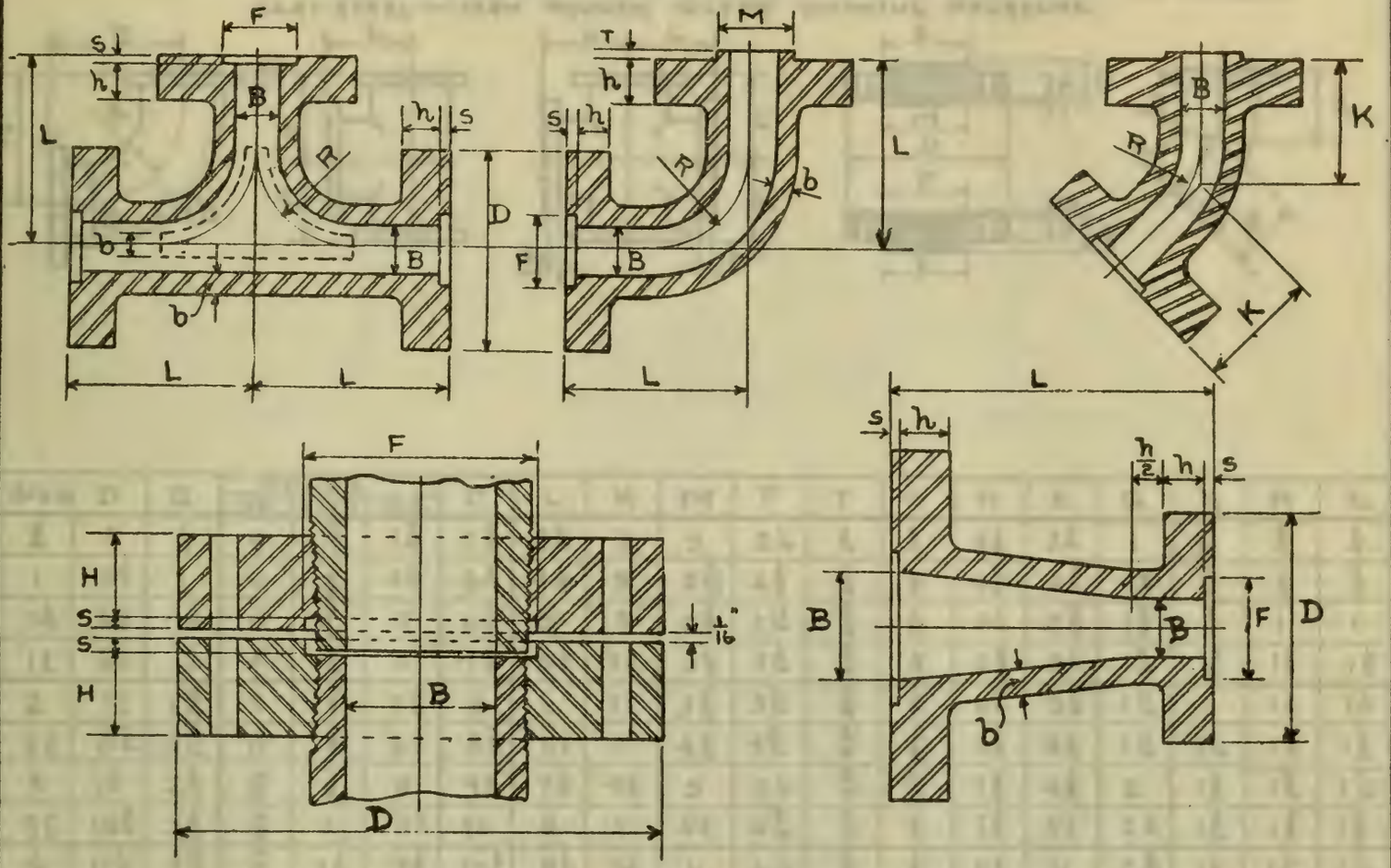


SIZE	D	B	HOLES No.	HOLES SIZE	HOLES B.C.	L	K	R	S	T	M	F	H	N
¼	5	⅝	4	⅝	3¼	5¼	3½	2½	⅜	½	1⅜	1⅛	1½	⅝
1	5¼	⅝	4	⅝	3¼	5½	3½	2⅝	⅜	½	1⅝	1⅛	1⅝	1
1¼	5½	⅝	4	⅝	3½	6	3½	3	⅜	½	2⅛	1⅛	1⅝	1¼
1½	6¼	⅝	4	⅝	4¼	6¼	3¾	3¼	⅜	½	2⅜	1⅛	1⅝	1½
2	7½	¾	4	¾	5½	7	4	3½	⅜	½	3⅛	1⅛	2	1⅝
2½	8	¾	8	¾	6¼	7½	4½	3¾	⅜	½	4	1⅛	2⅛	1⅝
3	8½	¾	8	¾	6¾	8	5	4½	½	⅝	4⅜	1⅛	2⅝	1⅝
3½	9½	¾	8	¾	7½	8½	5½	5	½	⅝	5⅛	1⅛	2⅞	2
4	10½	¾	8	¾	8½	9	6	5⅜	½	⅝	6	1⅛	2⅞	2⅛
4½	11½	⅞	8	¾	9¼	9½	6½	6	½	⅝	6⅜	1⅛	3	2⅜
5	13	⅞	8	¾	10½	10	6½	6½	½	⅝	7⅛	1⅛	3¼	2½
6	14½	1	8	¾	11⅞	11½	7	7¼	½	⅝	8⅜	1⅛	3⅝	2⅝
7	16½	1	12	¾	13⅝	12½	7½	8	½	⅝	9⅛	1⅛	4	2⅝
8	18½	1	12	¾	15⅝	13½	8½	9	½	⅝	10⅛	1⅛	4	3
10	21	1	12	⅞	17¾	15	9½	11	½	⅝	12⅛	1⅛	4	3½
12	23½	1	16	⅞	20½	16½	11	13½	½	⅝	14⅛	1⅛	4½	3½

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC FLANGED FITTINGS & FLANGES

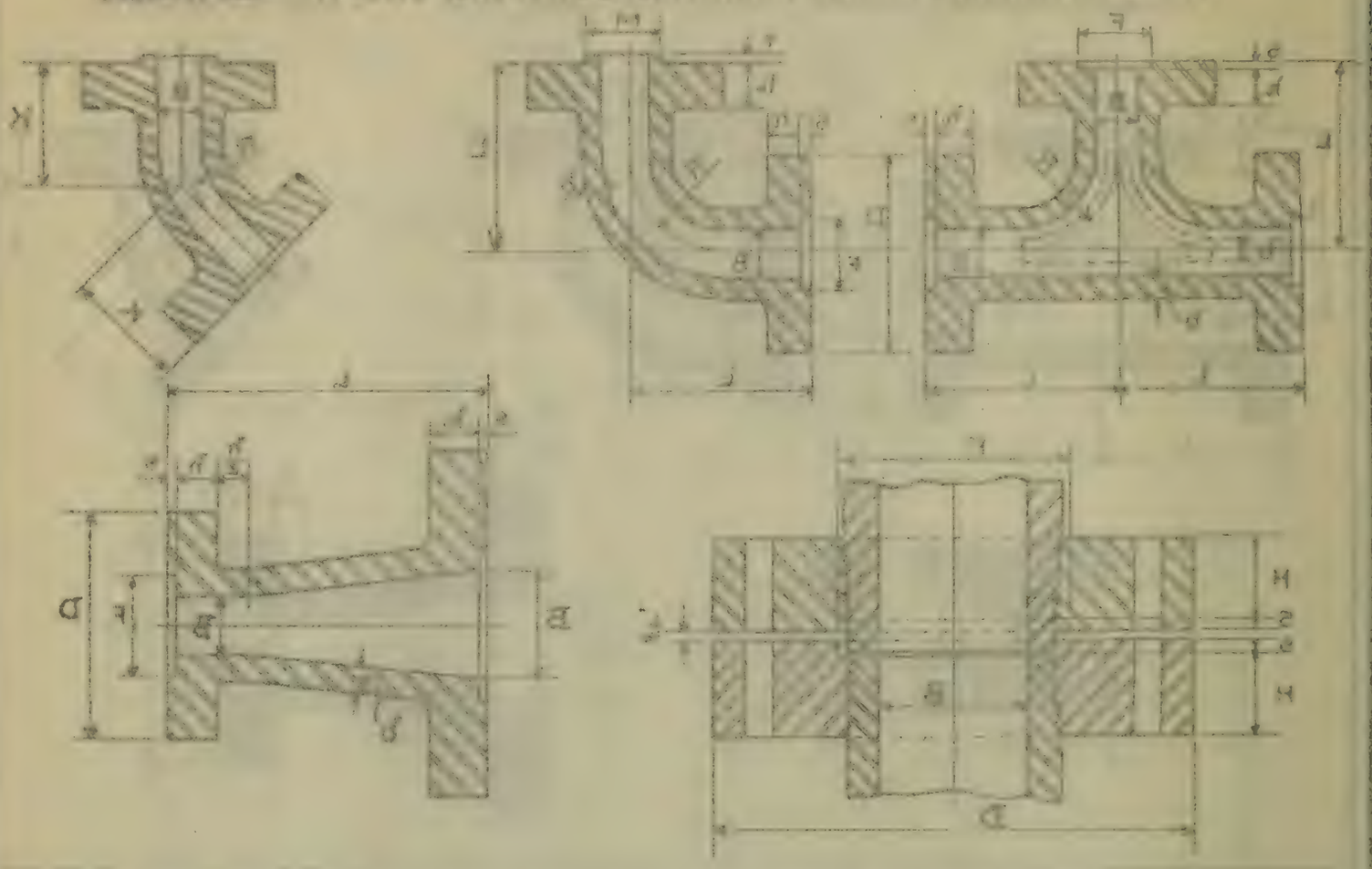
2500 LBS PRESSURE – DOUBLE EXTRA STRONG PIPE, CAST STEEL FITTINGS & FLANGES.



SIZE	D	B	HOLES NO.	HOLES SIZE	HOLES B.C.	L	K	R	S	T	M	F	b	H	h
3/4	5	1/2	4	11/16	3 1/2	5 1/4	3 1/2	2 1/2	3/16	1/4	1	1 1/16	7/16	1 1/2	7/8
1	5 1/4	5/8	4	11/16	3 3/4	5 1/2	3 1/2	2 3/4	3/16	1/4	1 1/4	1 5/16	1/2	1 11/16	1
1 1/4	5 1/2	7/8	4	11/16	4	6	3 1/2	3	3/16	1/4	1 5/8	1 11/16	5/8	1 13/16	1 1/4
1 1/2	6 1/2	1 1/8	4	13/16	4 3/4	6 1/2	3 3/4	3 1/4	3/16	1/4	1 7/8	1 15/16	5/8	1 7/8	1 1/4
2	7 1/2	1 1/2	4	15/16	5 1/2	7	4	3 1/2	3/16	1/4	2 5/16	2 3/8	3/4	2	1 3/8
2 1/2	8	1 3/4	8	13/16	6 1/4	7 1/2	4 1/2	3 3/4	1/4	5/16	2 13/16	2 7/8	7/8	2 5/16	1 5/8
3	8 1/2	2 1/4	8	13/16	6 3/4	8	5	4 1/2	1/4	5/16	3 7/16	3 1/2	1	2 7/16	1 7/8
3 1/2	9 1/2	2 3/4	8	15/16	7 1/2	8 1/2	5 1/2	5	1/4	5/16	3 15/16	4	1 1/8	2 5/8	2
4	10 1/2	3 1/8	8	15/16	8 1/2	9	6	5 3/4	1/4	5/16	4 7/16	4 1/2	1 1/4	2 3/4	2 1/4
4 1/2	11 3/4	3 5/8	8	1 1/16	9 1/4	9 3/4	6 1/4	6 1/8	1/4	5/16	4 15/16	5	1 3/8	3	2 3/8
5	13	4 1/8	8	1 3/16	10 5/8	10 1/2	6 1/2	6 1/2	1/4	5/16	5 1/2	5 9/16	1 1/2	3 1/4	2 1/2
6	14 1/2	4 7/8	8	1 5/16	11 1/8	11 1/2	7	7 1/4	1/4	5/16	6 9/16	6 5/8	1 5/8	3 3/8	2 3/4
7	16 1/4	5 7/8	12	1 5/16	13 5/8	12 1/2	7 3/4	8	1/4	5/16	7 9/16	7 5/8	2	3 1/2	2 7/8
8	18 1/2	6 7/8	12	1 5/16	15 7/8	13 1/2	8 1/2	9	1/4	5/16	8 9/16	8 5/8	2 1/8	3 5/8	3
10	21	8 3/4	20	1 5/16	17 3/4	16	9 1/2	11	1/4	5/16	10 11/16	10 3/4	2 1/4	4	3 3/8
12	23 1/2	10 3/4	20	1 7/16	20 3/8	19	11	13 1/2	1/4	5/16	12 11/16	12 3/4	2 1/4	4 1/2	3 3/4

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC FLANGED FITTINGS & FLANGES



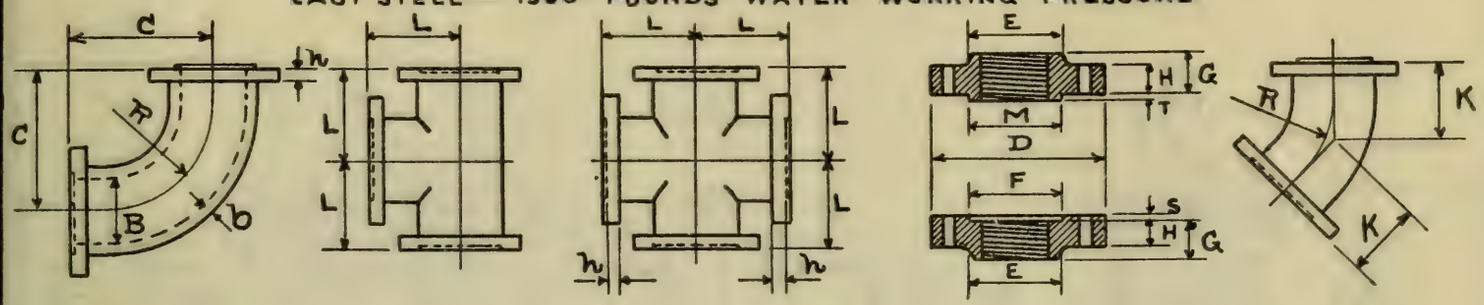
Size	D	B	HOLES No.	HOLES B.C.	L	K	N	S	T	M	F	H	h
¼	5	4	4	3¼	5⅜	3½	2½	⅜	¼	1	1⅛	1⅛	⅝
1	5¼	4	4	3¼	6¼	3½	2⅝	⅜	¼	1⅛	1⅛	1⅛	1
1¼	5½	4	4	3½	6	3½	3	⅜	¼	1⅛	1⅛	1⅛	1⅛
1½	6½	4	4	3½	6½	3½	3¼	⅜	¼	1⅛	1⅛	1⅛	1⅛
2	7½	4	4	3½	7	4	3½	⅜	¼	2⅛	2⅛	1⅛	1⅛
2½	8	4	8	3½	7½	4½	3¾	⅜	¼	2⅛	2⅛	1⅛	1⅛
3	8½	4	8	3½	8	5	4½	⅜	¼	3⅛	3½	1	1⅛
3½	9½	4	8	3½	8½	5½	5	⅜	¼	3⅛	4	1⅛	1⅛
4	10½	4	8	3½	9	6	5¾	⅜	¼	4⅛	4½	1⅛	1⅛
4½	11½	4	8	3½	9½	6½	6¼	⅜	¼	4⅛	5	1⅛	1⅛
5	13	4	8	4	10½	6½	6½	⅜	¼	5⅛	5½	1⅛	1⅛
6	14½	4	8	4	11½	7	7¼	⅜	¼	6⅛	6½	1⅛	1⅛
7	15½	4	12	4	12½	7½	8	⅜	¼	7⅛	7½	1⅛	1⅛
8	16½	4	12	4	13½	8½	9	⅜	¼	8⅛	8½	1⅛	1⅛
10	18½	4	12	4	15	9½	11	⅜	¼	10⅛	10½	1⅛	1⅛
12	21½	4	12	4	19	11	13½	⅜	¼	12⅛	12½	1⅛	1⅛

PITTSBURGH PIPING & EQUIPMENT CO.

WESTERN HYDRAULIC STANDARD

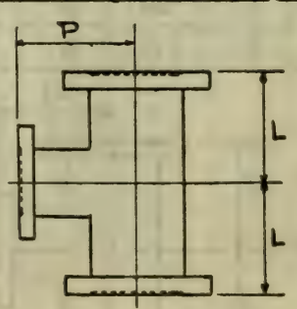
SEMI STEEL — 800 POUNDS WATER WORKING PRESSURE

CAST STEEL — 1500 POUNDS WATER WORKING PRESSURE



SIZE	D	B	HOLES NO.	HOLES SIZE	HOLES B.C.	C	L	K	M	F	T	S	R	E	G	b	H	h
3/4	5	3/4	4	9/16	3 3/4	5 3/4	4 1/4	3	2	2 1/16	3/16	1/8	4 1/2	2 1/4	1	5/8	3/4	3/4
1	5 1/2	1	4	5/8	4 1/4	6 1/4	4 1/2	3	2 5/16	2 3/8	3/16	1/8	4 7/8	2 1/2	1 1/4	3/4	7/8	7/8
1 1/4	6 1/2	1 1/4	4	3/4	5	6 3/4	5	3	2 3/4	2 13/16	3/16	1/8	5 1/4	2 7/8	1 3/8	7/8	1	1
1 1/2	6 1/2	1 1/2	4	3/4	5	7 1/4	5 1/2	3 1/4	3 1/8	3 3/16	3/16	1/8	5 5/8	3 1/4	1 9/16	15/16	1 1/8	1 1/8
2	7 1/2	1 15/16	4	7/8	5 3/4	8	6	3 1/2	3 5/8	3 11/16	3/16	1/8	6 1/4	3 3/4	1 11/16	1	1 1/4	1 1/4
2 1/2	8 3/4	2 5/16	8	7/8	6 1/2	8 3/4	6 1/2	4	4 1/8	4 3/16	3/16	1/8	6 7/8	4 1/4	1 13/16	1 1/16	1 3/8	1 3/8
3	10	2 7/8	8	7/8	8	9 1/2	7 1/2	4 1/2	5	5 1/16	3/16	1/8	7 3/8	4 7/8	2	1 1/8	1 9/16	1 9/16
3 1/2	10 3/4	3 3/8	8	1	8 1/2	10	8	5	5 1/2	5 9/16	3/16	1/8	7 3/4	5 1/2	2 1/16	1 3/16	1 5/8	1 5/8
4	11 1/2	3 13/16	8	1 1/8	9 3/8	10 3/4	8 1/2	5 1/4	6	6 1/16	3/16	1/8	8 1/2	6	2 3/16	1 1/4	1 11/16	1 11/16
4 1/2	12 1/2	4 5/16	12	1 1/8	10	12 1/2	9 1/2	5 1/2	6 1/2	6 9/16	3/16	1/8	9 5/8	6 5/8	2 5/16	1 5/16	1 13/16	1 13/16
5	13 1/2	4 13/16	12	1 1/8	11	13 3/4	10	6	7 1/4	7 5/16	3/16	1/8	9 5/8	7 1/4	2 3/8	1 3/8	1 7/8	1 7/8
6	15	5 3/4	12	1 1/4	12 1/2	15	11	6 1/2	8 3/8	8 7/16	3/16	1/8	12	8 3/8	2 5/8	1 1/2	2 1/16	2 1/16
7	16	6 5/8	16	1 1/4	13 3/8	16 1/2	11 1/2	7	9 3/8	9 7/16	1/4	3/16	13	9 1/2	2 13/16	1 5/8	2 1/4	2 1/4
8	17	7 5/8	16	1 3/8	14 1/8	17 3/4	12 1/2	7 1/4	10 5/8	10 11/16	1/4	3/16	14 1/8	10 5/8	2 15/16	1 3/4	2 3/8	2 3/8
9	18 1/2	8 5/8	16	1 3/8	15 1/2	20 3/4	13 1/2	7 3/4	11 5/8	11 11/16	1/4	3/16	16 1/2	11 5/8	3 1/8	1 7/8	2 9/16	2 9/16
10	21	9 3/4	20	1 3/8	17 3/4	22 3/4	15	8 1/2	12 3/4	12 13/16	1/4	3/16	16 1/2	13	3 3/16	2	2 3/4	2 3/4
12	23 1/2	10 3/4	20	1 1/2	20 3/8	24 3/4	16 1/2	9 1/2	15 1/4	15 5/16	1/4	3/16	20	15 1/8	3 11/16	2 1/8	3 1/8	3 1/8

REDUCING TEES AND CROSSES		
SIZE	L	P
8 x 2 TO 8 x 4 1/2	10	12
8 x 5 TO 8 x 7	12 1/2	12 1/2
10 x 2 TO 10 x 5	11	14
10 x 6 TO 10 x 8	15	15
12 x 2 TO 12 x 6	12	15 1/2
12 x 7 TO 12 x 10	16 1/2	16 1/2

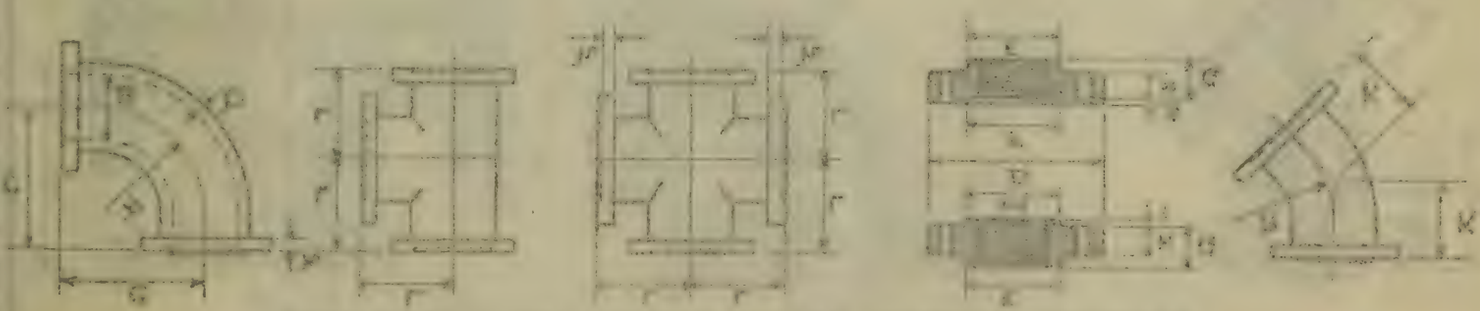


PITTSBURGH PIPING & EQUIPMENT CO.

WESTERN HYDRAULIC STANDARD

SEMI STEEL — 800 POUNDS WATER WORKING PRESSURE

CAST STEEL — 1200 POUNDS WATER WORKING PRESSURE



REDUCING TEES AND CROSSES

SIZE	L	F
8" x 4" TO 8" x 8"	10	13
10" x 4" TO 10" x 10"	11	14
12" x 4" TO 12" x 12"	12	15
14" x 4" TO 14" x 14"	13	16
15" x 5" TO 15" x 15"	14	17½
16" x 6" TO 16" x 16"	15½	19½

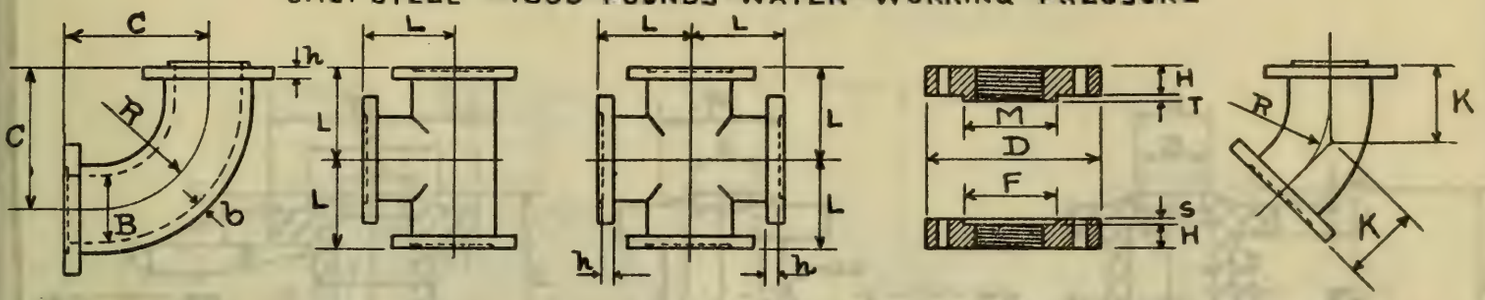
SIZE	D	B	A	C	L	K	M	E	T	J	H	G	F	P	N	M
½	2	¾	7	¾	3¼	2½	4½	3	3	2½	¾	2	4¼	1	½	½	½
¾	2½	¾	7½	¾	3½	2½	4½	3	3	2½	¾	2	4¼	1	½	½	½
1	2¾	1	8	¾	4¼	3¼	5	3½	3½	2½	¾	2	4¼	1	½	½	½
1¼	3¼	1¼	8½	1	4½	3½	5½	4	4	2½	¾	2	4¼	1	½	½	½
1½	3½	1½	9	1	5	3½	6	4½	4½	2½	¾	2	4¼	1	½	½	½
2	4	2	10	1¼	5½	4	6½	5	5	2½	¾	2	4¼	1	½	½	½
2½	4½	2½	11	1½	6	4½	7	5½	5½	2½	¾	2	4¼	1	½	½	½
3	5	3	12	1½	6½	5	7½	6	6	2½	¾	2	4¼	1	½	½	½
3½	5½	3½	13	1½	7	5½	8	6½	6½	2½	¾	2	4¼	1	½	½	½
4	6	4	14	1½	7½	6	8½	7	7	2½	¾	2	4¼	1	½	½	½
4½	6½	4½	15	1½	8	6½	9	7½	7½	2½	¾	2	4¼	1	½	½	½
5	7	5	16	1½	8½	7	9½	8	8	2½	¾	2	4¼	1	½	½	½
6	8	6	18	1½	9½	8	10½	9	9	2½	¾	2	4¼	1	½	½	½
8	10	8	22	2	11½	10	12½	11	11	2½	¾	2	4¼	1	½	½	½
10	12	10	26	2	13½	12	14½	13	13	2½	¾	2	4¼	1	½	½	½
12	14	12	30	2	15½	14	16½	15	15	2½	¾	2	4¼	1	½	½	½

PITTSBURGH PIPING & EQUIPMENT CO.

PITTSBURGH STEEL MILLS HYDRAULIC STANDARD

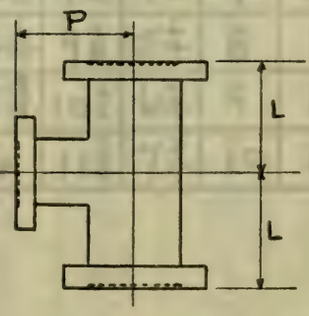
SEMI STEEL — 800 POUNDS WATER WORKING PRESSURE

CAST STEEL — 1500 POUNDS WATER WORKING PRESSURE



SIZE	D	B	HOLES NO.	HOLES SIZE	HOLES B.C.	C	L	K	M	F	T	S	R	b	H	h
3/4	4 1/2	3/4	4	5/8	3 1/4	5	5 1/4	3	1 3/4	1 13/16	5/16	1/4	2 3/8	7/16	1 3/8	1
1	5	1	4	3/4	3 1/2	5 1/4	5 1/2	3	2 1/4	2 5/16	5/16	1/4	2 1/2	1/2	1 1/2	1 1/8
1 1/4	5 1/2	1 5/16	4	3/4	4	5 3/4	6	3	2 1/2	2 9/16	5/16	1/4	2 3/4	17/32	1 5/8	1 1/4
1 1/2	6 1/2	1 1/2	4	7/8	4 3/4	6 1/2	6 1/2	3 1/4	3	3 1/16	5/16	1/4	3 1/4	5/8	1 7/8	1 3/8
2	7 1/2	2	4	1	5 1/2	7	7	3 1/2	3 1/2	3 9/16	5/16	1/4	3 1/2	5/8	2 1/8	1 1/2
2 1/2	8	2 5/16	4	1	6	7 1/2	7 1/2	4	4	4 1/16	5/16	1/4	3 3/4	25/32	2 3/8	1 5/8
3	9	2 15/16	8	1	7	8	8	4 1/2	4 3/4	4 13/16	5/16	1/4	4 1/2	27/32	2 1/2	1 3/4
3 1/2	9 3/4	2 3/4	8	1 1/8	7 1/2	9	8 1/2	5	5 1/4	5 5/16	5/16	1/4	5 1/4	1	2 9/16	1 7/8
4	10 1/2	3 1/8	8	1 1/8	8 1/4	9 3/4	9	5 1/4	6	6 1/16	5/16	1/4	6	1 1/8	2 5/8	2
4 1/2	11 3/4	3 5/8	8	1 1/4	9 1/4	10 3/4	10	5 1/2	6 5/8	6 11/16	5/16	1/4	6 3/4	1 5/16	2 11/16	2 1/4
5	12 1/2	4 1/8	8	1 1/4	10	11 1/2	10 1/2	6	7 1/4	7 5/16	5/16	1/4	7 1/2	1 3/8	2 3/4	2 3/8
6	14 1/2	5 1/8	8	1 3/8	11 3/4	13 1/4	11 1/2	6 1/2	8 1/2	8 9/16	5/16	1/4	9	1 9/16	2 7/8	2 1/2
7	16	6	12	1 3/8	13 1/4	15	12 1/2	7	9 5/8	9 11/16	5/16	1/4	10 1/2	1 7/8	3	2 5/8
8	17 1/2	6 7/8	12	1 3/8	14 3/4	16 1/2	13 1/2	7 1/4	10 5/8	10 11/16	5/16	1/4	12	2 1/8	3 1/8	2 3/4
10	21 1/2	8 3/4	16	1 1/2	18	19 1/2	16	8 1/2	13	13 1/16	5/16	1/4	15	2 1/4	3 5/8	3 1/4
12	25	10 3/4	20	1 5/8	21 1/2	22 1/2	18	9 1/2	15 1/4	15 5/16	5/16	1/4	17 1/2	2 1/4	4	3 5/8

REDUCING TEES AND CROSSES		
SIZE	L	P
8 x 2 TO 8 x 4 1/2	10 3/4	12
8 x 5 TO 8 x 7	13 1/2	13 1/2
10 x 2 TO 10 x 5	12 1/4	14 1/4
10 x 6 TO 10 x 8	16	16
12 x 2 TO 12 x 6	13 3/4	16
12 x 7 TO 12 x 10	18	18



PITTSBURGH PIPING & EQUIPMENT CO.

PITTSBURGH STEEL MILLS HYDRAULIC STANDARD

SEMI STEEL — 800 POUNDS WATER WORKING PRESSURE

CAST STEEL — 1500 Pounds WATER WORKING Pressure

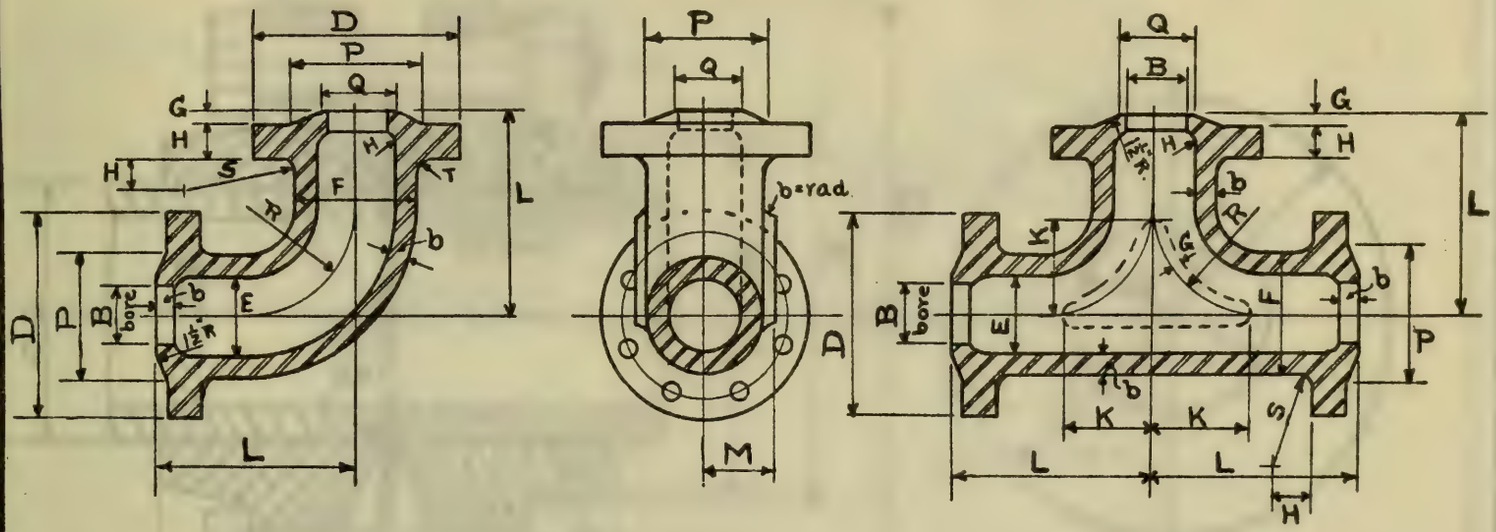
SIZE	D	B	No.	E	B.C.	C	L	K	M	F	T	S	R	H	h
3/4	4 1/2	2 1/2	4	5/8	3 1/4	5	5 1/4	3	1 3/4	1 1/8	1/2	1/4	2 3/8	1 1/8	1
1	5	3	4	3/4	3 1/2	5 1/2	5 3/4	3	2 1/4	1 1/4	5/8	1/4	2 1/2	1 1/2	1 1/8
1 1/4	5 1/2	3 1/2	4	3/4	4	5 1/2	6	3	2 1/2	1 3/8	5/8	1/4	2 3/4	1 5/8	1 1/4
1 1/2	6 1/2	4 1/2	4	3/4	4 3/4	6 1/2	6 1/4	3 1/4	3	1 3/8	5/8	1/4	3 1/4	1 5/8	1 3/8
2	7 1/2	2	4	1	5 1/2	7	7	3 1/2	3 1/2	1 3/8	5/8	1/4	3 1/2	1 5/8	1 1/2
2 1/2	8	2 1/2	4	1	6	7 1/2	7 1/2	4	4	1 3/8	5/8	1/4	3 3/4	1 5/8	1 5/8
3	9	2 1/2	8	1	7	8	8	4 1/2	4 1/2	1 3/8	5/8	1/4	4 1/2	1 5/8	2 1/2
3 1/2	9 1/2	2 1/2	8	1 1/8	7 1/2	9	8 1/2	5	5 1/4	1 3/8	5/8	1/4	5 1/4	1	2 1/8
4	10 1/2	3 1/2	8	1 1/8	8 1/4	9 1/2	9	5 1/2	6	1 3/8	5/8	1/4	6	1 1/4	2
4 1/2	11 1/2	3 1/2	8	1 1/4	9 1/4	10 1/2	10	5 1/2	6 1/8	1 3/8	5/8	1/4	6 1/4	1 1/2	2 1/4
5	12 1/2	4 1/2	8	1 1/4	10	11 1/2	10 1/2	6	7 1/4	1 3/8	5/8	1/4	7 1/2	1 5/8	2 3/8
6	14 1/2	5 1/2	8	1 3/8	11 3/4	13 1/2	13 1/4	6 1/2	8 1/2	1 3/8	5/8	1/4	9	1 3/4	2 1/2
7	16	6	12	1 3/8	13 1/4	15	15 1/2	7	9 3/8	1 3/8	5/8	1/4	10 1/2	1 5/8	3
8	17 1/2	6 1/2	12	1 3/8	14 3/4	16 1/2	16 1/2	7 1/4	10 3/8	1 3/8	5/8	1/4	12	1 3/4	3 3/8
10	21 1/2	8 1/2	16	1 1/2	18	19 1/2	19	8 1/2	13	1 3/8	5/8	1/4	15	2 1/4	3 3/4
12	25	10 1/2	20	1 5/8	21 1/2	23 1/2	23	9 1/4	15 3/4	1 3/8	5/8	1/4	17 1/2	4	4 3/4

SIZE	L	P
8 x 2 To 8 x 4	10 1/2	12
8 x 5 To 8 x 1	13 1/2	15 1/2
10 x 2 To 10 x 6	12 1/2	14 1/2
10 x 8 To 10 x 8	16	16
12 x 2 To 12 x 6	13 1/2	15
12 x 7 To 12 x 10	18	18

PITTSBURGH PIPING & EQUIPMENT CO.

CAST STEEL HYDRAULIC FITTINGS

FOR WORKING PRESSURES UP TO 1500 LBS.



SIZE	D	B	HOLES NO.	HOLES SIZE	HOLES B.C.	E	F	G	H	K	L	M	P	Q	R	S	T	b
3/4	5	1/2	4	11/16	3 1/2	5/8	1 3/4	1/4	1	2	5 1/4	1 1/8	2 1/8	5/8	2 1/2	5 1/2	1/4	9/16
1	5 1/4	5/8	4	11/16	3 3/4	3/4	2	3/8	1 1/8	2 1/4	5 1/2	1 3/8	2 1/4	3/4	2 3/4	5 1/2	1/4	5/8
1 1/4	5 3/4	7/8	4	13/16	4 1/8	1	2 1/4	3/8	1 1/4	2 1/2	6	1 1/2	2 1/2	1	3	6	1/4	5/8
1 1/2	6 3/4	1 1/8	4	15/16	4 3/4	1 3/8	2 7/8	1/2	1 3/8	2 3/4	7	1 3/4	3 1/8	1 5/16	3 1/2	6	3/8	3/4
2	7 1/2	1 1/2	4	15/16	5 5/8	1 7/8	3 3/8	1/2	1 1/2	3	8	1 7/8	3 3/4	1 3/4	4	6	3/8	3/4
2 1/2	8 1/2	1 3/4	4	1 1/16	6 1/2	2 1/8	3 7/8	1/2	1 5/8	3 1/2	8 3/4	2 1/8	4 1/2	2 1/8	4 1/2	6	3/8	7/8
3	9 3/4	2 1/4	4	1 3/16	7 3/8	2 5/8	4 3/8	1/2	1 3/4	4	9 1/2	2 3/8	5 1/4	2 5/8	5	6	1/2	7/8
3 1/2	10 1/4	2 3/4	8	15/16	7 7/8	3 1/4	5 1/4	1/2	1 3/4	4 1/2	10	2 7/8	5 3/4	3 1/8	5 1/2	6	1/2	1
4	10 3/4	3 1/8	8	1 1/16	8 1/2	3 5/8	5 5/8	1/2	1 3/4	5	10 1/2	3 1/8	6 3/8	3 1/2	6	6	1/2	1
5	12 3/4	4 1/8	8	1 1/4	10 1/2	4 3/4	7	1/2	1 7/8	5 3/4	12 1/2	3 7/8	7 3/4	4 1/2	7	6	1/2	1 1/8
6	14 1/2	4 7/8	8	1 3/8	11 3/4	5 1/2	8	5/8	2	6 1/2	15	4 1/4	9 1/8	5 1/4	8	6	1/2	1 1/4
7	16	5 7/8	12	1 1/16	13 1/4	6 1/2	9 1/4	5/8	2 1/8	7 1/4	16 1/2	5 3/8	10 1/2	6 1/4	9	6	1/2	1 3/8
8	17	6 7/8	12	1 1/4	14 3/8	7 5/8	10 5/8	5/8	2 1/4	8	18	6	11 3/4	7 1/4	10	6	1/2	1 1/2

PITTSBURGH PIPING & EQUIPMENT CO.

CAST STEEL HYDRAULIC FITTINGS

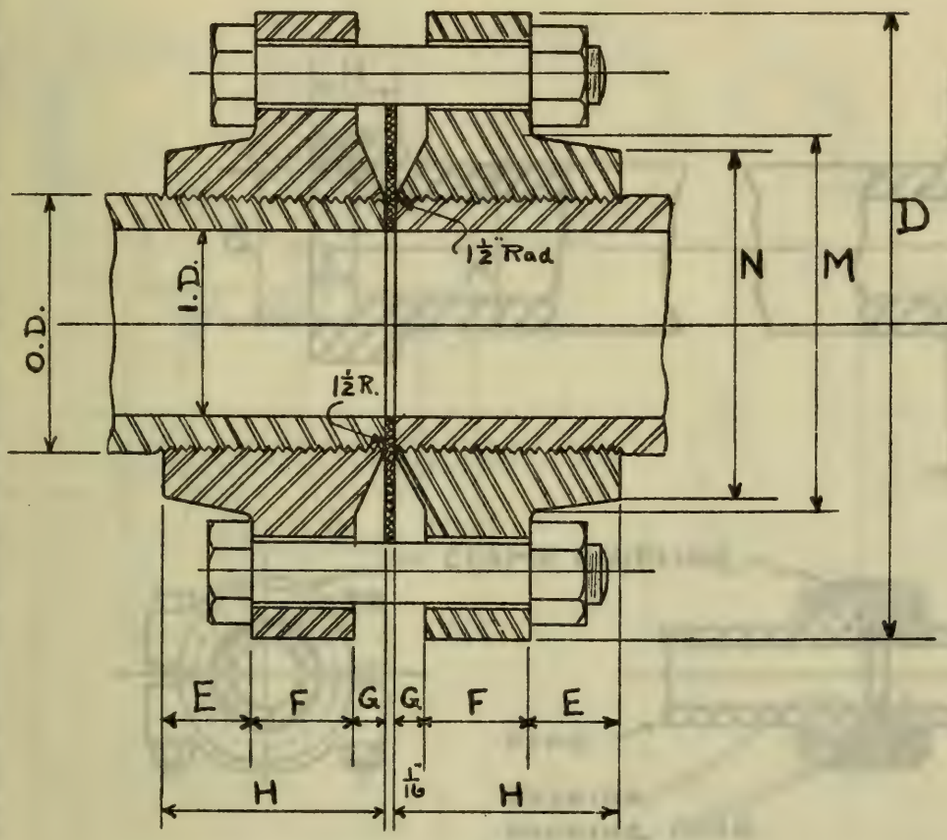
FOR WORKING PRESSURES UP TO 1500 LBS.

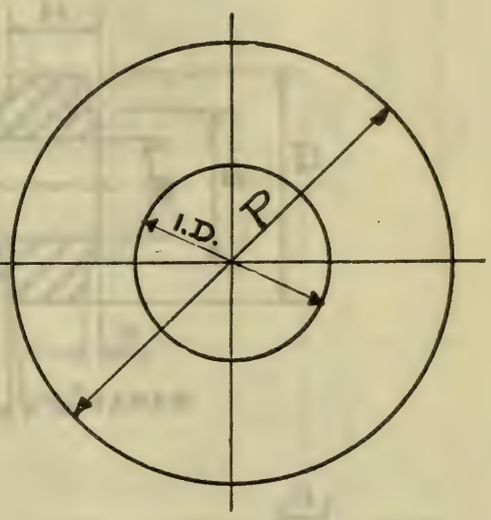
Size	D	B	HOLES No.	HOLES Size	HOLES B.C.	E	F	G	H	K	L	M	P	Q	R	S	T	b
¼	5	2	4	¼	3¼	⅜	1¼	¼	1	2	3¼	½	2⅜	⅜	2¼	5¼	¼	½
⅜	5⅛	⅝	4	⅜	3¼	½	2	⅜	1⅛	2¼	5¼	½	2¼	½	2⅜	5¼	¼	⅝
½	5¼	⅝	4	½	3¼	⅝	2¼	⅜	1¼	2½	6	½	2½	¾	3	6	¼	⅝
¾	6¼	1	4	½	4¼	⅝	2⅝	½	1⅜	2¾	7	½	3⅛	1	3½	6	¼	¾
1	7½	1¼	4	½	4¾	¾	3	½	1½	3	8	½	3½	1¼	4	6	½	¾
1¼	8½	1¼	4	½	5½	¾	3⅜	½	1⅝	3¼	8¼	½	4⅛	1½	4½	6	½	⅞
1½	9¼	1½	4	½	6	¾	3¾	½	1¾	3½	9	½	4½	1¾	5	6	½	⅞
2	10¼	1¾	4	½	7	¾	4⅛	½	1⅞	3¾	9½	½	4¾	2	5½	6	½	⅞
2½	12	2	4	½	8½	¾	4⅝	½	2	4	10	½	5⅛	2½	6	6	½	1
3	13½	2¼	4	½	9½	¾	5⅛	½	2⅛	4¼	10½	½	5½	3	6½	6	½	1
3½	14¾	2½	8	½	10½	¾	5⅝	½	2¼	4½	11	½	5⅞	3½	7	6	½	1
4	16	2¾	8	½	11½	¾	6⅛	½	2⅜	4¾	11½	½	6⅜	4	7½	6	½	1
5	18½	3⅛	8	½	13	¾	6⅝	½	2½	5	12	½	6⅞	5	8	6	½	1
6	21	3½	8	¾	15	¾	7⅛	½	2⅝	5¼	12½	½	7⅜	6	8½	6	½	1
7	23½	3⅞	12	¾	16½	¾	7⅝	½	2¾	5½	13	½	7⅞	7	9	6	½	1
8	26	4¼	12	¾	18	¾	8	½	2⅞	5¾	13½	½	8⅜	8	9½	6	½	1

PITTSBURGH PIPING & EQUIPMENT CO.

CAST STEEL HYDRAULIC FLANGES

FOR WORKING PRESSURES UP TO 1500 LBS.





SOFT COPPER GASKET

XX STRONG PIPE			D	HOLES			E	F	G	H	M	N	P
SIZE	I.D.	O.D.		NO.	SIZE	B.C.							
3/4	.42	1.05	5	4	11/16	3 1/2	7/8	1	1/4	2 1/8	2 1/8	2	2 7/8
1	.59	1.32	5 1/4	4	11/16	3 3/4	7/8	1 1/8	3/8	2 3/8	2 3/8	2 1/4	3 1/8
1 1/4	.89	1.66	5 3/4	4	13/16	4 1/8	1	1 1/4	3/8	2 5/8	2 9/16	2 3/8	3 3/8
1 1/2	1.09	1.90	6 3/4	4	15/16	4 3/4	1 1/8	1 3/8	3/8	2 7/8	2 13/16	2 5/8	3 7/8
2	1.49	2.38	7 1/2	4	15/16	5 5/8	1 1/8	1 1/2	1/2	3 1/8	3 3/4	3 5/8	4 3/4
2 1/2	1.76	2.88	8 1/2	4	1 1/16	6 1/2	1 1/4	1 5/8	1/2	3 3/8	4 1/4	4 1/8	5 1/2
3	2.28	3.50	9 3/4	4	1 3/16	7 3/8	1 1/4	1 3/4	1/2	3 1/2	5 3/16	5	6 1/4
3 1/2	2.72	4.00	10 1/4	8	15/16	7 7/8	1 1/4	1 3/4	1/2	3 1/2	5 3/4	5 1/2	7
4	3.14	4.50	10 3/4	8	1 1/16	8 1/2	1 1/2	1 3/4	1/2	3 3/4	6 3/8	6 1/8	7 1/2
5	4.06	5.56	12 3/4	8	1 1/4	10 1/2	1 5/8	1 7/8	1/2	4	7 7/8	7 5/8	9 3/8
6	4.88	6.63	14 1/2	8	1 3/8	11 3/4	1 3/4	2	5/8	4 3/8	9 1/8	8 7/8	10 1/2
7	5.88	7.63	16	12	1 1/16	13 1/4	2 1/4	2 1/8	5/8	5	10 1/2	10 1/4	12 1/4
8	6.88	8.63	17	12	1 1/4	14 3/8	2 1/2	2 1/4	5/8	5 3/8	11 3/4	11 1/2	13 1/4

PITTSBURGH PIPING & EQUIPMENT CO.

CAST STEEL HYDRAULIC FLANGES

FOR WORKING PRESSURES UP TO 1500 LBS.

Size	I.D.	O.D.	D	HOLES No.	HOLES Size	HOLES B.C.	E	F	G	H	M	N	P
¼	.42	1.05	5	4	11/16	3½	⅞	1	¼	2⅜	2⅛	2	2⅜
1	.54	1.32	5¼	4	11/16	3⅝	⅞	1⅛	⅜	2⅜	2⅛	2¼	3⅛
1¼	.84	1.66	5¾	4	13/16	4⅜	1	1¼	⅜	2⅝	2⅜	2½	3⅜
1½	1.05	1.90	6½	4	15/16	4¾	1⅛	1⅜	⅜	2⅞	2⅝	2⅝	3⅜
2	1.49	2.38	7½	4	15/16	5⅜	1⅜	1½	½	3⅜	3⅛	3⅜	4¼
2½	1.76	2.88	8½	4	1 1/16	6½	1½	1⅝	½	3⅝	4¼	4⅛	5¼
3	2.28	3.50	9¼	4	1 1/16	7⅜	1½	1⅝	½	4½	5⅛	5	6¼
3½	2.72	4.00	10½	8	1 5/16	7⅞	1¾	1⅞	⅝	5½	5¾	5½	7
4	3.14	4.50	10¾	8	1 1/16	8½	1½	1¾	½	3¾	6⅜	6⅛	7½
5	4.06	5.56	12¾	8	1¼	10½	1⅝	1⅞	½	4	7⅜	7⅛	9⅜
6	4.88	6.63	14½	8	1⅜	11¾	1⅞	2	⅝	4⅜	7⅞	8⅝	10½
7	5.88	7.63	16	12	1⅜	13¼	2¼	2¼	⅝	5	10½	10¼	12¼
8	6.88	8.63	17	12	1⅜	14⅜	2½	2¼	⅝	5⅜	11⅜	11½	13¼

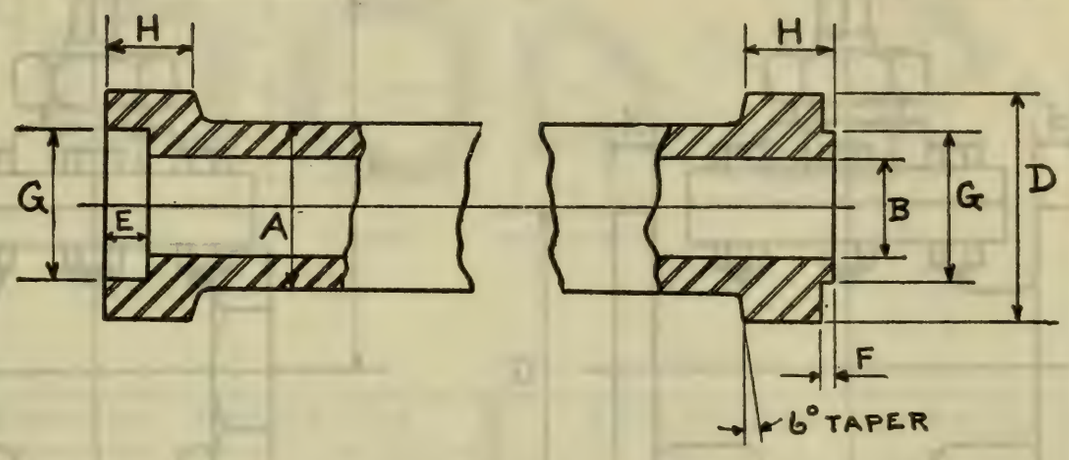
PITTSBURGH PIPING & EQUIPMENT CO.

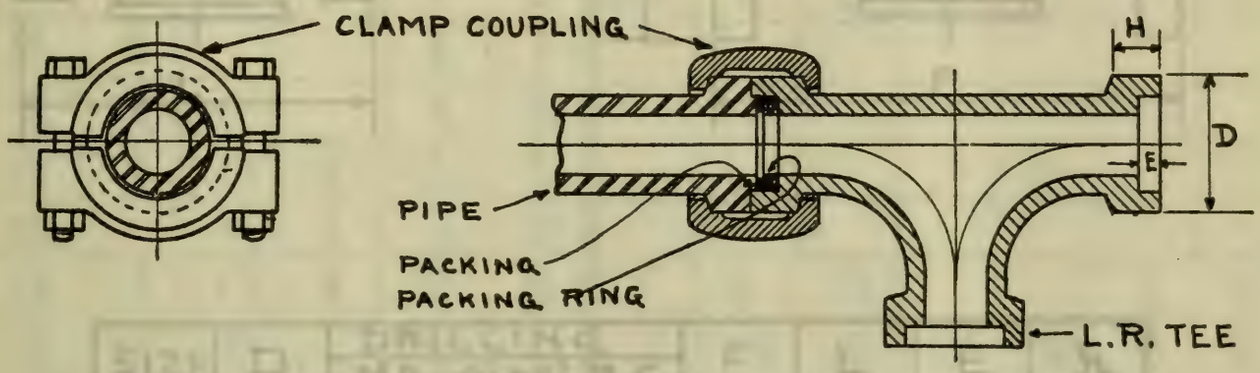
HYDRAULIC PIPE WITH WELDED COLLARS

FOR USE WITH CLAMP COUPLINGS & FITTINGS AS SHOWN BELOW

3000 POUNDS WORKING PRESSURE

6000 POUNDS TEST PRESSURE





TYPICAL CONNECTION

SIZE	D	A	B	E	F	G	H
2	$3\frac{1}{2}$	$2\frac{3}{8}$	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{8}$	$2\frac{3}{8}$	$1\frac{3}{8}$
$2\frac{1}{2}$	4	$2\frac{7}{8}$	$1\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{8}$	$2\frac{3}{4}$	$1\frac{1}{2}$
3	$4\frac{3}{4}$	$3\frac{1}{2}$	$2\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{8}$	$3\frac{3}{8}$	$1\frac{5}{8}$
$3\frac{1}{2}$	$5\frac{1}{2}$	4	$2\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{8}$	$3\frac{3}{4}$	$1\frac{3}{4}$
4	$6\frac{1}{8}$	$4\frac{1}{2}$	$3\frac{1}{8}$	$\frac{13}{16}$	$\frac{1}{8}$	$4\frac{1}{4}$	$1\frac{7}{8}$
$4\frac{1}{2}$	$6\frac{3}{4}$	5	$3\frac{9}{16}$	$\frac{7}{8}$	$\frac{1}{8}$	$4\frac{3}{4}$	2
5	$7\frac{3}{8}$	$5\frac{9}{16}$	$4\frac{1}{16}$	$\frac{7}{8}$	$\frac{1}{8}$	$5\frac{1}{4}$	$2\frac{1}{8}$
6	$8\frac{1}{2}$	$6\frac{5}{8}$	$4\frac{7}{8}$	$\frac{7}{8}$	$\frac{1}{8}$	$6\frac{1}{4}$	$2\frac{1}{4}$
7	$9\frac{1}{2}$	$7\frac{5}{8}$	$5\frac{7}{8}$	1	$\frac{3}{16}$	$7\frac{3}{8}$	$2\frac{3}{8}$
8	$10\frac{1}{2}$	$8\frac{5}{8}$	$6\frac{7}{8}$	1	$\frac{3}{16}$	$8\frac{1}{4}$	$2\frac{1}{2}$

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC PIPE WITH WELDED COLLARS

FOR USE WITH CLAMP COUPLINGS & FITTINGS AS SHOWN BELOW

3000 POUNDS WORKING PRESSURE

5000 POUNDS TEST PRESSURE

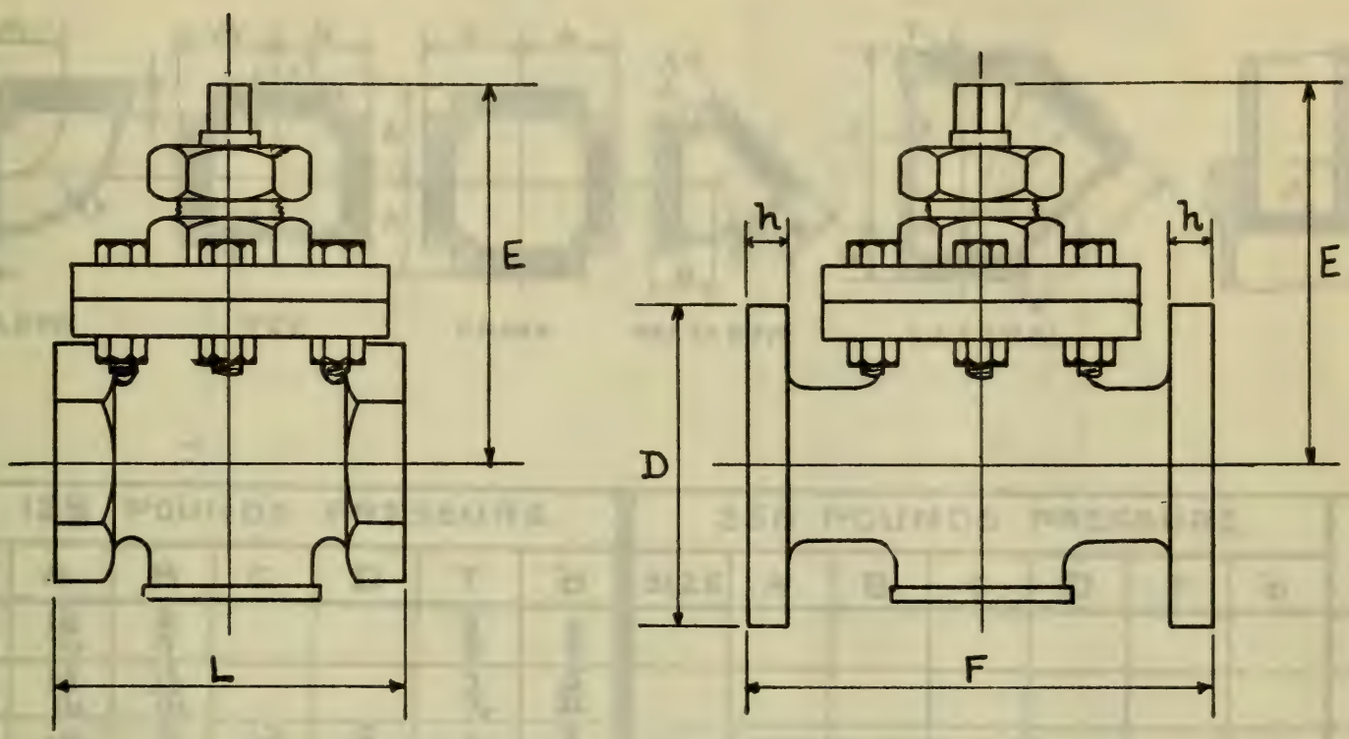
TYPICAL CONNECTION

SIZE	D	A	B	E	F	G	H
2	3½	2⅜	1¼	⅜	⅛	2⅜	1⅜
2½	4	2⅝	1½	⅜	⅛	2½	1½
3	4½	3½	2¼	⅜	⅛	3⅜	1⅝
3½	5½	4	2½	⅜	⅛	3½	1¾
4	6⅝	4½	3⅜	⅜	⅛	4½	1⅝
4½	6½	5	3½	⅜	⅛	4⅝	2
5	7⅝	5⅛	4¼	⅜	⅛	5¼	2⅛
6	8½	6⅛	4½	⅜	⅛	6¼	2¼
7	9½	7⅛	5⅛	1	1/16	7⅛	2⅜
8	10½	8⅛	6⅜	1	1/16	8¼	2½

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC BRONZE COCK

1000 LBS. WORKING PRESSURE



SIZE	D	DRILLING			F	L	E	h
		NO.	SIZE	B.C.				
$\frac{1}{2}$	$4\frac{3}{4}$	4	$\frac{11}{16}$	$3\frac{1}{4}$	$6\frac{1}{2}$	$3\frac{7}{8}$	$4\frac{1}{2}$	$\frac{5}{8}$
$\frac{3}{4}$	5	4	$\frac{11}{16}$	$3\frac{1}{2}$	$6\frac{1}{2}$	$4\frac{1}{8}$	$4\frac{1}{2}$	$\frac{5}{8}$
1	$5\frac{1}{4}$	4	$\frac{11}{16}$	$3\frac{3}{4}$	$6\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{3}{4}$	$\frac{5}{8}$
$1\frac{1}{4}$	$5\frac{1}{2}$	4	$\frac{11}{16}$	4	8	$5\frac{1}{4}$	$6\frac{3}{4}$	$\frac{11}{16}$
$1\frac{1}{2}$	$6\frac{1}{2}$	4	$\frac{13}{16}$	$4\frac{3}{4}$	$9\frac{3}{4}$	6	$7\frac{3}{4}$	$\frac{3}{4}$
2	$7\frac{1}{2}$	4	$\frac{15}{16}$	$5\frac{1}{2}$	10	$6\frac{3}{4}$	$8\frac{3}{4}$	$\frac{13}{16}$
$2\frac{1}{2}$	8	8	$\frac{13}{16}$	$6\frac{1}{4}$	$11\frac{1}{4}$	$7\frac{5}{8}$	$9\frac{1}{4}$	$\frac{7}{8}$
3	$8\frac{1}{2}$	8	$\frac{13}{16}$	$6\frac{3}{4}$	$12\frac{1}{4}$	$8\frac{1}{4}$	$10\frac{1}{4}$	1
4	$10\frac{1}{2}$	8	$\frac{15}{16}$	$8\frac{1}{2}$	$13\frac{1}{2}$	$9\frac{3}{8}$	$11\frac{3}{4}$	$1\frac{1}{16}$

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC BRONZE COCK

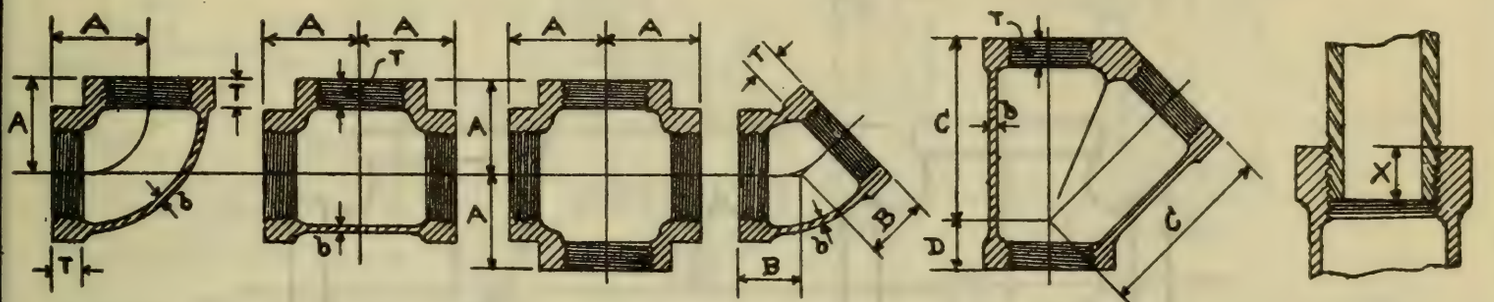
1000 LBS. WORKING PRESSURE

SIZE	D	DRILLING		F	L	E	N
		NO.	SIZE B.C.				
¼	4⅜	4	11/16 3¾	6¼	3⅜	4½	5/16
⅜	5	4	11/16 3½	6½	4⅜	4½	5/16
1	5½	4	11/16 3¾	6¾	4¾	4¾	5/16
1¼	5½	4	11/16 4	8	5½	6½	11/16
1½	6½	4	13/16 4⅜	9¼	6	7½	¾
2	7½	4	15/16 5½	10	6¾	8⅜	13/16
2½	8	8	11/16 6¼	11¼	7⅜	9¼	⅞
3	8½	8	13/16 6¾	12¼	8¼	10½	1
4	10½	8	15/16 8½	13½	9⅜	11⅜	1⅛

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON SCREWED FITTINGS

125 AND 250 POUNDS PRESSURE



125 POUNDS PRESSURE							250 POUNDS PRESSURE							X
SIZE	A	B	C	D	T	b	SIZE	A	B	C	D	T	b	
1/4	13/16	3/4			3/8	1/8								3/8
3/8	15/16	13/16			7/16	5/32								3/8
1/2	1 1/8	7/8	1 7/8	5/8	1/2	3/16								1/2
3/4	1 5/16	1	2 1/4	3/4	9/16	7/32								1/2
1	1 7/16	1 1/8	2 3/4	3/4	21/32	7/32	1	2	1 3/8			13/16	5/16	9/16
1 1/4	1 3/4	1 5/16	3 1/4	1	23/32	1/4	1 1/4	2 1/4	1 1/2	3 13/16	1 1/16	29/32	11/32	5/8
1 1/2	1 15/16	1 7/16	3 13/16	15/16	25/32	1/4	1 1/2	2 9/16	1 5/8	4 1/2	1 1/4	31/32	11/32	5/8
2	2 1/4	1 11/16	4 1/2	1 1/4	7/8	1/4	2	3	1 15/16	5 3/16	1 1/16	1 1/8	3/8	11/16
2 1/2	2 11/16	1 15/16	5 3/16	1 1/16	15/16	1/4	2 1/2	3 1/2	2 1/4	6 1/8	1 3/4	1 3/16	7/16	15/16
3	3 1/8	2 3/16	6 1/8	1 3/4	1 1/32	9/32	3	4 1/8	2 1/2	6 7/8	2	1 5/16	1/2	1
3 1/2	3 7/16	2 3/8	6 7/8	2	1 1/8	9/32	3 1/2	4 11/16	2 9/16	7 5/8	2 1/8	1 3/8	9/16	1 1/16
4	3 3/4	2 5/8	7 5/8	2 1/8	1 3/16	3/8	4	5 1/8	2 3/4	8 1/2	2 3/16	1 15/32	9/16	1 1/16
4 1/2	4 1/16	2 13/16	8 1/2	2 1/8	1/4	7/16	4 1/2	5 1/2	3			1 9/16	5/8	1 1/8
5	4 7/16	3 1/16	9 1/4	2 3/8	1 5/16	15/32	5	6 1/8	3 5/16			1 21/32	11/16	1 3/16
6	5 1/8	3 7/16	10 3/4	2 11/16	1 15/32	1/2	6	7 1/4	3 3/4			1 27/32	3/4	1 1/4
7	5 13/16	3 7/8	12 1/4	3	1 5/8	1/2	7	8 1/8	4			2 1/32	7/8	1 1/4
8	6 1/2	4 1/4	13 5/8	3 5/16	1 3/4	1/2	8	9 1/8	4 3/4			2 7/32	1	1 5/16
9	7 3/16	4 11/16	16 3/4	3 15/16	1 15/16	9/16	9	10 1/4	4 13/16			2 3/8	1 1/8	1 3/8
10	7 7/8	5 3/16	16 3/4	3 15/16	2 1/16	5/8	10	11 3/8	4 7/8			2 19/32	1 1/4	1 1/2
12	9 1/4	6	19 5/8	4 1/2	2 3/8	3/4	12	13 3/8	5 1/2			2 31/32	1 3/8	1 5/8

PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON SCREWED FITTINGS

125 AND 250 POUNDS PRESSURE

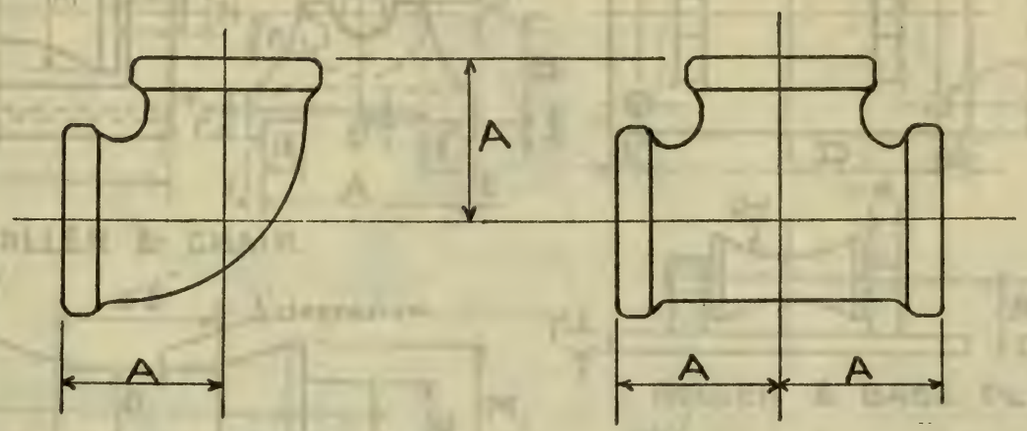
SIZE	A	B	C	D	T	b	X
¼	13/16	7/16			5/8	3/8	3/8
3/8	15/16	1/2			11/16	7/16	7/16
½	1 5/16	5/8	1 3/16	5/8	13/16	1/2	½
¾	1 11/16	1	1 7/16	7/8	1 1/16	9/16	¾
1	1 15/16	1 1/8	1 11/16	1	1 1/4	11/16	1
1¼	2 3/8	1 7/16	2 1/16	1 1/4	1 9/16	13/16	1¼
1½	2 11/16	1 5/8	2 5/16	1 3/8	1 3/4	15/16	1½
2	3 1/16	1 7/8	2 11/16	1 5/8	2	1 1/16	2
2½	3 5/8	2 3/16	3 1/8	1 7/8	2 3/8	1 5/16	2½
3	4 3/16	2 1/2	3 5/8	2 1/8	2 3/4	1 1/2	3
3½	4 3/4	2 13/16	4 1/8	2 3/8	3 1/8	1 11/16	3½
4	5 5/16	3 1/8	4 5/8	2 5/8	3 1/2	1 7/8	4
4½	5 7/8	3 7/16	5 1/8	2 7/8	3 7/8	2 1/16	4½
5	6 7/16	3 3/4	5 5/8	3 1/8	4 1/4	2 1/4	5
6	7 1/2	4 3/8	6 5/8	3 5/8	5	2 11/16	6
7	8 9/16	5	7 5/8	4 1/8	5 3/4	3 1/16	7
8	9 5/8	5 5/8	8 5/8	4 5/8	6 1/2	3 7/16	8
9	10 11/16	6 1/4	9 5/8	5 1/8	7 1/4	3 13/16	9
10	11 3/4	6 7/8	10 5/8	5 5/8	8	4 1/4	10
12	13 7/8	8 1/8	12 5/8	6 5/8	9 1/2	5 1/16	12

250 POUNDS PRESSURE

SIZE	A	B	C	D	T	b	X
¼							
3/8							
½							
¾							
1	2	1 3/8			1 5/16	5/8	1
1¼	2 7/16	1 5/8	1 7/16	1 1/16	1 9/16	3/4	1¼
1½	2 13/16	1 7/8	1 11/16	1 1/8	1 13/16	7/8	1½
2	3	2 1/16	2 1/16	1 5/16	2 1/16	1	2
2½	3 1/2	2 7/16	2 7/16	1 1/2	2 5/16	1 1/8	2½
3	4 1/8	2 13/16	2 13/16	1 11/16	2 5/8	1 5/16	3
3½	4 11/16	3 1/16	3 3/16	1 7/8	2 15/16	1 7/16	3½
4	5 1/4	3 7/16	3 9/16	2 1/16	3 1/4	1 5/8	4
4½	5 13/16	3 3/4	4 1/16	2 1/4	3 9/16	1 3/4	4½
5	6 3/8	4 1/16	4 7/16	2 7/16	3 7/8	1 7/8	5
6	7 7/16	4 3/4	5 3/16	2 7/8	4 1/2	2 3/16	6
7	8 1/2	5 3/8	5 15/16	3 1/4	5 1/8	2 1/2	7
8	9 9/16	6 1/16	6 11/16	3 5/8	5 3/4	2 13/16	8
9	10 5/8	6 3/4	7 7/16	4	6 3/8	3 1/8	9
10	11 11/16	7 3/8	8 3/16	4 3/8	7	3 7/16	10
12	13 13/16	8 3/4	9 11/16	5 1/4	8 1/4	4 1/16	12

PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC DROP FORGED STEEL FITTINGS



SIZE	UP TO 3000 LBS. PRESS.			3001 LBS. TO 10000 LBS. PRESS.		
	A	WEIGHTS		A	WEIGHTS	
		ELLS	TEES		ELLS	TEES
1/4	1 1/4	1/2 LBS.	3/4 LBS.			
3/8	1 1/4	1/4 "	1/2 "	1 1/4	1/2 LBS.	3/4 LBS.
1/2	1 1/4	1/2 "	3/4 "	1 1/2	1 "	1 1/4 "
3/4	1 1/2	1 "	1 1/4 "	1 3/4	1 1/4 "	1 1/2 "
1	1 3/4	1 1/4 "	1 1/2 "	2	1 3/4 "	2 1/4 "
1 1/4	2	1 3/4 "	2 1/4 "	2 1/4	2 1/2 "	3 "
1 1/2	2 1/4	2 1/2 "	3 "	2 1/2	4 "	5 1/4 "
2	2 1/2	4 "	5 1/4 "	2 3/4	6 "	7 "
2 1/2	2 3/4	6 "	7 "			

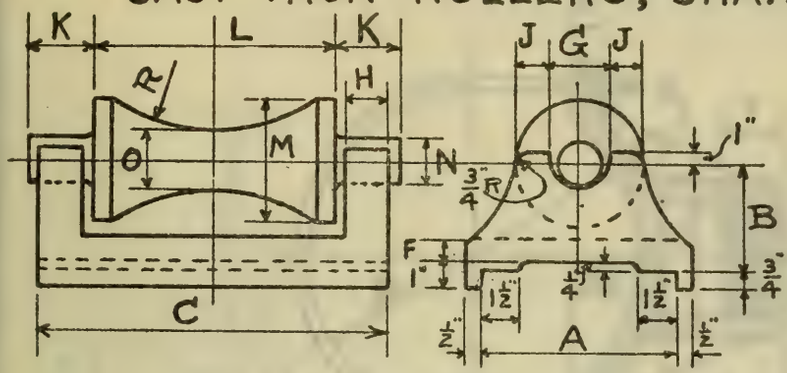
PITTSBURGH PIPING & EQUIPMENT CO.

HYDRAULIC DROP FORGED STEEL FITTINGS

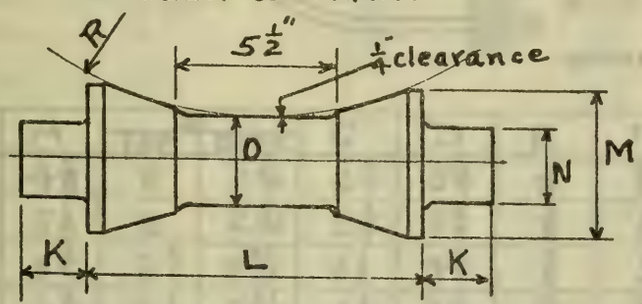
SIZE	UP TO 3000 LBS. PRESS.			3001 LBS. TO 10000 LBS. PRESS.		
	A	WEIGHTS		A	WEIGHTS	
		ELLS	TEES		ELLS	TEES
¼	1¼	½ LBS.	¾ LBS.			
⅜	1¼	¼ "	½ "	1¼	½ LBS.	¾ LBS.
½	1¼	½ "	¾ "	1½	1 "	1¼ "
¾	1½	1 "	1¼ "	1¾	1¼ "	1½ "
1	1¾	1¼ "	1½ "	2	1¾ "	2¼ "
1¼	2	1¾ "	2¼ "	2½	2 "	3 "
1½	2¼	2½ "	3 "	2¾	4 "	5¼ "
2	2½	4 "	5¼ "	3¼	6 "	7 "
2½	2¾	6 "	7 "			

PITTSBURGH PIPING & EQUIPMENT CO.

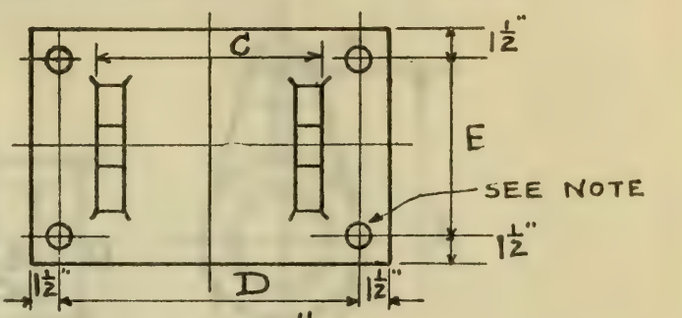
CAST IRON ROLLERS, CHAIRS AND BASE PLATES

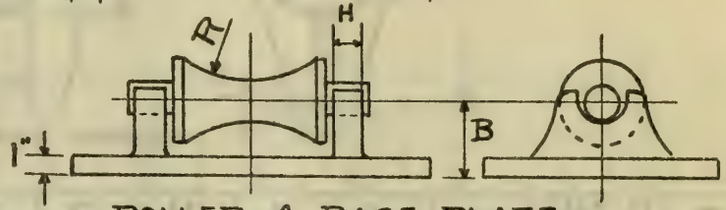


ROLLER & CHAIR

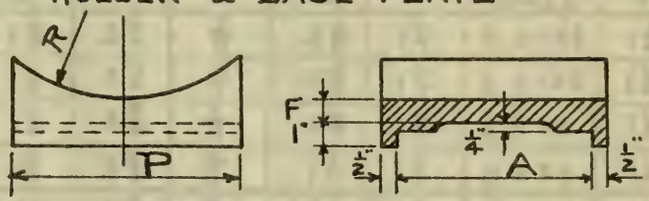


STYLE OF ROLLER USED FOR SIZES 16" TO 30" INC.





ROLLER & BASE PLATE



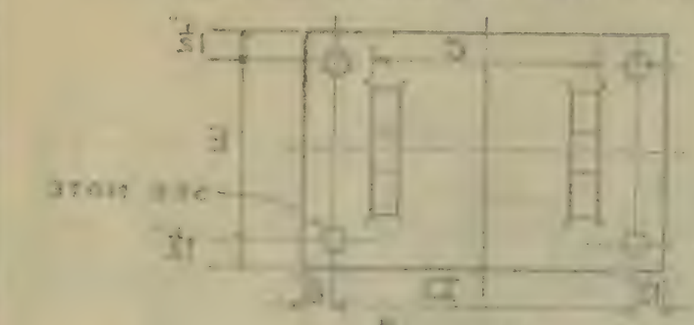
ANCHOR CHAIR

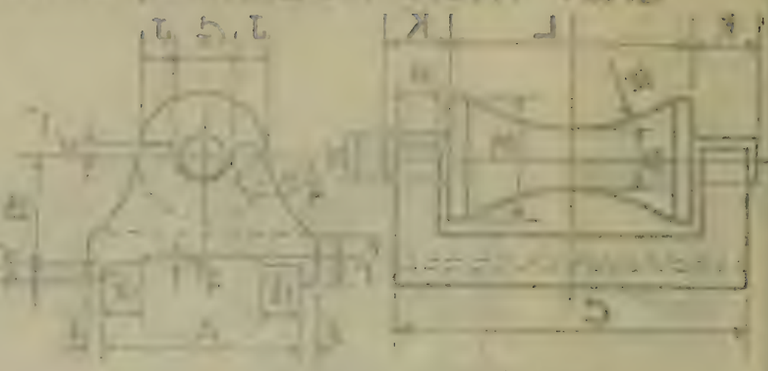
NOTE:-Use same pattern for sizes under 4" as used for 4" except make radius "R" to suit
On sizes 4" to 5" inc. drill 1" holes, and on sizes 6" to 30" inc. drill 1 1/8" holes.

Size	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	Size of L for Support
4	4 1/2	3	8	12	7 1/2	5/8	1 5/8	1 1/4	1	1 3/4	5	3 1/4	1 1/2	1 1/2	3 7/8	2 1/4	2 x 2
4 1/2	4 1/2	3	8	12	7 1/2	5/8	1 5/8	1 1/4	1	1 3/4	5	3 1/4	1 1/2	1 1/2	4 1/8	2 1/2	2 x 2
5	4 1/2	3	8	12	7 1/2	5/8	1 5/8	1 1/4	1	1 3/4	5	3 1/4	1 1/2	1 1/2	4 1/2	2 3/4	2 x 2
6	5 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2	4 3/4	3 3/8	2 1/2 x 2 1/2
7	5 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2	5	3 3/4	2 1/2 x 2 1/2
8	5 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2	5 1/2	4 3/8	2 1/2 x 2 1/2
9	5 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2	6	4 3/4	2 1/2 x 2 1/2
10	5 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2	7	5 3/8	2 1/2 x 2 1/2
12	6 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2	8	6 3/8	3 x 3
14	6 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2 1/4	9	7	3 x 3
15	6 1/2	3 3/4	11 1/2	15	8 1/2	3/4	2 1/8	1 1/2	1 1/2	2 1/8	7 3/4	4 1/4	2	2 1/2	10	7 1/2	3 x 3
16	6 1/2	4 1/2	15	18	8 1/2	1	2 5/8	2	1 1/2	2 1/8	10 1/2	5 1/4	2 1/2	3	11	8	3 x 3
18	6 1/2	4 1/2	15	18	9 1/2	1	2 5/8	2	1 1/2	2 1/8	10 1/2	5 1/4	2 1/2	3	12	9	3 x 3
20	6 1/2	4 1/2	15	18	9 1/2	1	2 5/8	2	1 1/2	2 1/8	10 1/2	5 1/4	2 1/2	3 1/4	13	10	3 x 3
22	6 1/2	4 1/2	15	18	9 1/2	1	2 5/8	2	1 1/2	2 1/8	10 1/2	5 1/4	2 1/2	3 1/4	14	11	3 x 3
24	6 1/2	4 1/2	15	18	9 1/2	1	3	2	1 1/2	2 1/8	10 1/2	5 1/4	2 3/4	3 1/4	15	12	4 x 3
26	6 1/2	4 1/2	15	18	9 1/2	1	3	2	1 1/2	2 1/8	10 1/2	5 1/4	2 3/4	3 1/2	16	13	4 x 3
28	6 1/2	4 1/2	15	18	9 1/2	1	3	2	1 1/2	2 1/8	10 1/2	5 1/4	2 3/4	3 1/2	17	14	4 x 3
30	8 1/2	4 1/2	15	18	10 1/2	1	3	2	1 1/2	2 1/8	10 1/2	5 1/4	2 3/4	3 1/2	18	15	6 X 4

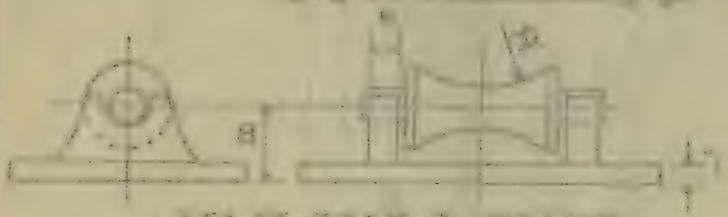
PITTSBURGH PIPING & EQUIPMENT CO.

CAST IRON ROLLERS, CHAIRS AND BASE PLATES

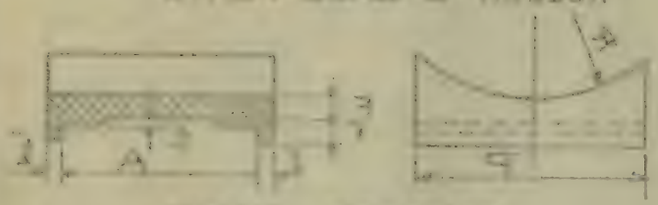




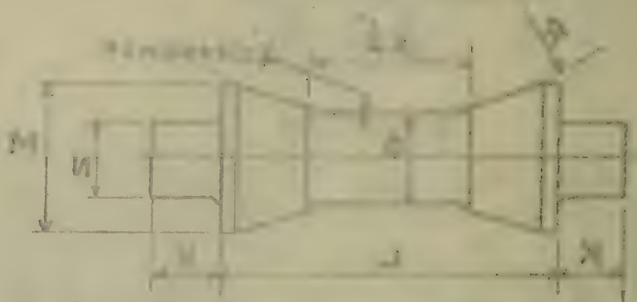
ROLLER & CHAIR



ROLLER & BASE PLATE



ANCHOR CHAIN



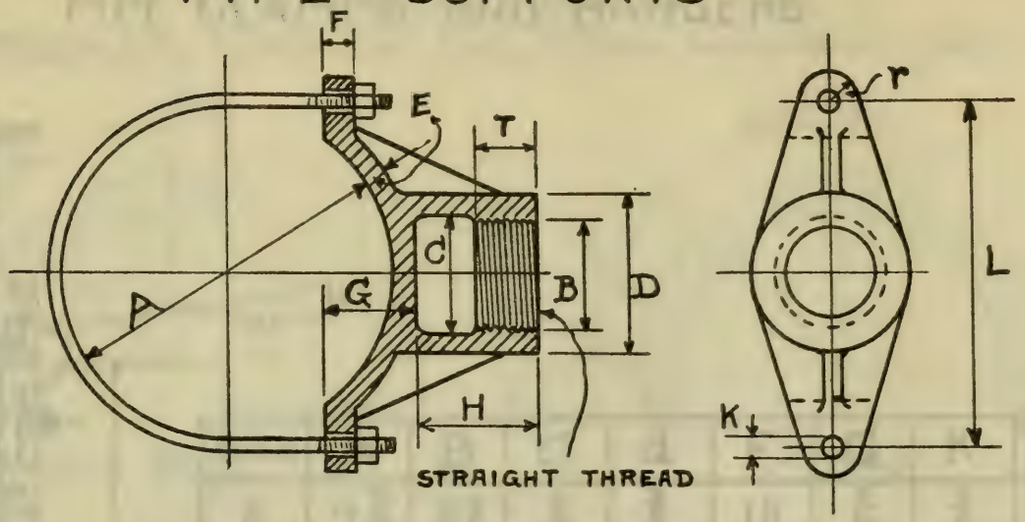
STYLE OF ROLLER USED FOR SIZES 18" TO 30" INC.

NOTE:-Same pattern for sizes 4" to 16" inc. except where noted "R" to suit
On sizes 4" to 5" inc. drill 1 holes, and on sizes 6" to 30" inc. drill 18 holes.

Size	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	T
4	4½	3	8	12	11	1	12	1	1	1½	2	4½	1½	1½	2½	2½ x 2
4½	4½	3	9	13	12	1	13	1	1	1½	2	5½	1½	1½	2½	2½ x 2
5	4½	3	11	14	13	1	14	1	1	1½	2	5½	1½	1½	2½	2½ x 2
6	5½	3½	11	16	15	1	15	1	1	1½	2	6½	1½	2	3½	3½ x 2½
7	6½	3½	11	17	16	1	16	1	1	1½	2	6½	2	2	3½	3½ x 2½
8	7½	3½	15	18	17	1	17	1½	1½	1½	2½	7½	2	2	4½	4½ x 2½
9	8½	3½	15	19	18	1	18	1½	1½	1½	2½	7½	2	2	4½	4½ x 2½
10	9½	3½	15	20	19	1	19	1½	1½	1½	2½	7½	2	2	4½	4½ x 2½
12	11½	4½	15	21	20	1	20	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
14	13½	4½	15	22	21	1	21	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
15	14½	4½	15	23	22	1	22	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
16	15½	4½	15	24	23	1	23	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
18	17½	4½	15	25	24	1	24	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
20	19½	4½	15	26	25	1	25	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
22	21½	4½	15	27	26	1	26	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
24	23½	4½	15	28	27	1	27	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
26	25½	4½	15	29	28	1	28	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
28	27½	4½	15	30	29	1	29	1½	1½	1½	2½	8½	2	2	5½	5½ x 3
30	29½	4½	15	31	30	1	30	1½	1½	1½	2½	8½	2	2	5½	5½ x 3

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE SUPPORTS



Size	A	B TAP	B BORE	C	D	E	F	G	H	K	L	r	Size of Bolts	T
4	4 5/8	2	2 7/32	2 3/4	3 3/4	5/8	3/4	1 1/4	3 1/2	5/8	5 1/8	1 1/4	1/2 x 14 1/2	1 1/2
4 1/2	5 1/8	2	2 7/32	2 3/4	3 3/4	5/8	3/4	1 1/2	3 1/2	5/8	5 5/8	1 1/4	1/2 x 15 1/2	1 1/2
5	5 3/4	2 1/2	2 21/32	3 1/8	4 1/4	5/8	3/4	1 1/2	3 3/4	5/8	6 1/4	1 1/4	1/2 x 17	1 1/2
6	6 3/4	2 1/2	2 21/32	3 1/8	4 1/4	3/4	7/8	1 3/4	3 3/4	5/8	7 1/4	1 1/4	1/2 x 20	1 1/2
7	7 3/4	2 1/2	2 21/32	3 1/8	4 1/4	3/4	7/8	2	3 3/4	5/8	8 1/4	1 1/4	1/2 x 21 1/2	1 1/2
8	8 3/4	3	3 1/4	4	5 1/4	3/4	7/8	2 1/4	4	5/8	9 1/4	1 1/4	1/2 x 24	1 3/4
9	9 3/4	3	3 1/4	4	5 1/4	7/8	7/8	2 1/2	4	5/8	10 1/4	1 1/4	1/2 x 26	1 3/4
10	11	3	3 1/4	4	5 1/4	7/8	1	2 3/4	4	3/4	11 5/8	1 1/2	5/8 x 29	1 3/4
12	13	4	4 1/4	5	6 1/4	7/8	1	3 1/4	4	3/4	13 5/8	1 1/2	5/8 x 33 1/2	2
14	14 1/4	4	4 1/4	5	6 1/4	1	1 1/8	3 1/2	4	3/4	14 7/8	1 1/2	5/8 x 37	2
15	15 1/4	4	4 1/4	5	6 1/4	1	1 1/8	4	4 1/2	7/8	16	1 1/2	3/4 x 39	2
16	16 1/4	4	4 1/4	5	6 3/8	1	1 1/4	4 1/2	4 1/2	7/8	17	1 1/2	3/4 x 40 1/2	2
18	18 1/4	4	4 1/4	5	6 3/8	1	1 1/4	5	5	7/8	19	1 1/2	3/4 x 45	2
20	20 1/4	4	4 1/4	5	6 1/2	1 1/8	1 1/4	5 1/2	5	7/8	21	1 1/2	3/4 x 49	2
22	22 1/4	5	5 11/32	6	7 1/2	1 1/8	1 1/4	5 1/2	5 1/2	7/8	23	1 1/2	3/4 x 54 1/4	2 1/2
24	24 1/4	5	5 11/32	6	7 5/8	1 1/4	1 3/8	6	5 1/2	1	25 1/8	1 3/4	7/8 x 59 1/2	2 1/2
26	26 1/4	5	5 11/32	6	7 3/4	1 1/4	1 3/8	6 1/2	6	1	27 1/8	1 3/4	7/8 x 63 1/2	2 1/2
28	28 1/4	5	5 11/32	6	7 7/8	1 1/4	1 3/8	7	6	1	29 1/8	1 3/4	7/8 x 67 1/2	2 1/2
30	30 1/4	5	5 11/32	6	8	1 1/4	1 3/8	7 1/2	6	1 1/8	31 1/4	2	1 x 72 1/2	2 1/2
32	32 1/4	6	6 5/16	7	8 1/2	1 1/4	1 3/8	8	6	1 1/8	33 1/4	2	1 x 76	3
34	34 1/4	6	6 5/16	7	8 3/4	1 1/4	1 3/8	8 1/2	6 1/2	1 1/8	35 1/4	2	1 x 80 1/2	3
36	36 1/4	6	6 5/16	7	9	1 1/4	1 3/8	9	6 1/2	1 1/8	37 1/4	2	1 x 85	3
38	38 1/4	6	6 5/16	7	10	1 3/8	1 1/2	9	6 1/2	1 1/8	39 1/4	2	1 x 90	3
40	40 1/4	8	8 3/8	9	10 1/2	1 3/8	1 1/2	10	7	1 1/8	41 1/4	2	1 x 94	3 1/2
42	42 1/4	8	8 3/8	9	10 1/2	1 3/8	1 5/8	10	7	1 1/8	43 1/4	2	1 x 99	3 1/2
44	44 1/4	8	8 3/8	9	10 1/2	1 3/8	1 3/4	11	7	1 1/4	45 3/8	2	1 1/8 x 103	3 1/2
46	46 1/4	8	8 3/8	9	10 5/8	1 1/2	1 7/8	11	8	1 1/4	47 3/8	2	1 1/8 x 108	3 1/2
48	48 1/4	8	8 3/8	9	10 3/4	1 1/2	1 7/8	12	8	1 1/4	49 3/8	2	1 1/8 x 112	3 1/2
50	50 1/4	8	8 3/8	9	11	1 1/2	2	12	9	1 3/8	51 1/2	2 1/4	1 1/4 x 118	3 1/2
60	60 1/4	10	10 3/8	11	13	1 1/2	2	13 1/2	10	1 3/8	61 1/2	2 1/4	1 1/4 x 140	3 3/4
72	72 1/4	12	12 3/8	13	15 1/4	1 1/2	2	15	10	1 5/8	73 3/4	2 1/2	1 1/2 x 172	4

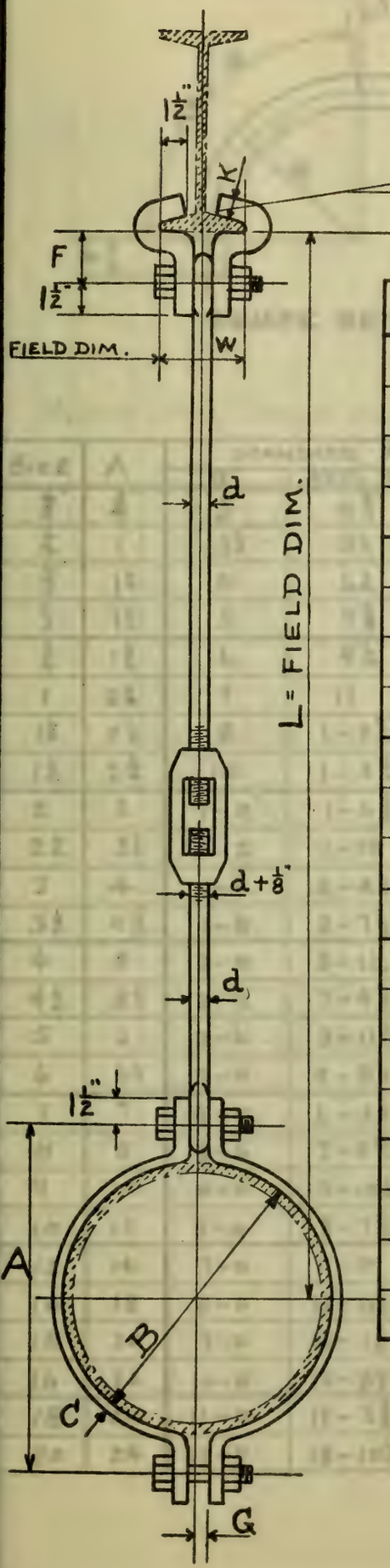
PITTSBURGH PIPING & EQUIPMENT CO.

PIPE SUPPORTS

Size	A	Tap	Bore	C	D	E	F	G	H	K	L	P	Size of Bolts	T
4	4⅝	2	2⅛	2¼	3¼	¾	⅝	1¾	3½	½	5⅛	1¾	⅜ x 14½	1⅞
4½	5⅛	2	2⅛	2¼	3½	¾	⅝	1¾	3½	½	5⅛	1¾	⅜ x 15½	1⅞
5	5⅝	2½	2⅝	3⅛	4¼	¾	⅝	1¾	3½	½	6¼	1¾	⅜ x 17	1⅞
6	6½	2½	2⅝	3⅛	4¼	¾	⅝	1¾	3½	½	7¼	1¾	⅜ x 20	1⅞
7	7½	2½	2⅝	3⅛	4¼	¾	⅝	2	3½	½	8¼	1¾	½ x 21½	1⅞
8	8½	3	3⅛	4	5¼	¾	⅝	2¼	4	⅝	9¼	1¾	½ x 24	1⅞
9	9½	3½	4	4	5¼	¾	⅝	2½	4	⅝	10¼	1¾	½ x 26	1⅞
10	11	3½	4	4	5¼	¾	1	2½	4	⅝	11¼	1¾	½ x 29	1⅞
12	13	4½	5	5¼	6¼	⅞	1	3½	4	¾	13⅝	1⅞	⅝ x 33½	2
14	14½	4	4½	5	6¼	1	1⅛	3½	4	⅞	15⅛	1⅞	⅝ x 37	2
15	15½	4	4½	5	6¼	1	1⅛	4	4½	⅞	16	1⅞	¾ x 39	2
16	16½	4	4½	5	6⅜	1	1⅛	4⅛	4½	⅞	17	1⅞	¾ x 40½	2
18	18½	4	4½	5	6⅜	1	1⅛	5	5	1	19	1⅞	¾ x 45	2
20	20½	4	4½	5	6½	1⅛	1⅛	5⅛	5	1	21	1⅞	¾ x 49	2
22	22½	5	5⅛	6	7½	1⅛	1⅛	5½	5½	1	23	1⅞	¾ x 53	2½
24	24½	5	5⅛	6	7⅝	1¼	1¼	6	5½	1	25⅝	1⅞	⅞ x 57½	2½
26	26½	5	5⅛	6	7½	1¼	1¼	6⅛	6	1	27⅛	1⅞	⅞ x 62½	2½
28	28½	5	5⅛	6	7⅝	1¼	1⅜	7	6	1	29⅛	1⅞	⅞ x 67½	2½
30	30½	5	5⅛	6	8	1⅜	1⅜	7½	6	1⅛	31¼	2	1 x 72½	2½
32	32½	6	6⅛	7	8¼	1⅜	1⅜	8	6	1⅛	33¼	2	1 x 76	3
34	34½	6	6⅛	7	8½	1½	1⅜	8½	6½	1⅛	35⅜	2	1 x 80½	3
36	36½	6	6⅛	7	9	1½	1⅜	9	6½	1⅛	37⅜	2	1 x 85	3
38	38½	6	6⅛	7	10	1½	1½	9½	6½	1⅛	39¾	2	1 x 90	3
40	40½	8	8⅛	9	10½	1⅝	1½	10	7	1¼	41⅝	2	1 x 94½	3½
42	42½	8	8⅛	9	10½	1⅝	1⅝	10	7	1¼	43⅝	2	1 x 99	3½
44	44½	8	8⅛	9	10½	1⅝	1⅝	11	7	1¼	45⅝	2	1 x 103	3½
46	46½	8	8⅛	9	10⅝	1⅝	1⅝	11	8	1¼	47⅝	2	1 x 108	3½
48	48½	8	8⅛	9	10⅝	1⅝	1⅝	12	8	1¼	49⅝	2	1 x 112	3½
50	50½	8	8⅛	9	11	1⅞	2	12	9	1⅜	51⅝	2½	1¼ x 118	3½
60	60½	10	10⅛	11	13	1⅞	2	13⅝	10	1½	61¾	2½	1¼ x 140	4½
72	72½	12	12⅛	13	15¼	1⅞	2	15	10	1⅝	73¾	2½	1½ x 172	4

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS



Size	A	B	C	d	F	G	K	Width of Bars	Size of Bolts
2	4¾	2½	¼	⅜	1⅛	3/16	⅜	1½	½ × 2
2½	5¼	3	¼	⅜	1⅛	3/16	⅜	1½	½ × 2
3	5¾	3½	¼	⅜	1⅛	3/16	⅜	2	½ × 2
3½	6¼	4	¼	½	1⅛	¼	⅜	2	½ × 2¼
4	7	4½	¼	½	1¼	¼	⅜	2	½ × 2¼
4½	7½	5⅛	¼	⅝	1¼	5/16	⅜	2	⅝ × 2¼
5	8	5⅝	¼	⅝	1¼	5/16	⅜	2	⅝ × 2¼
6	9½	6⅝	⅜	⅝	1⅜	5/16	½	2½	⅝ × 2½
7	10½	7⅝	⅜	¾	1½	⅜	½	2½	¾ × 2¾
8	11½	8⅝	⅜	¾	1½	⅜	½	2½	¾ × 2¾
9	12½	9¾	⅜	¾	1½	⅜	½	2½	¾ × 2¾
10	13¾	10¾	⅜	¾	1⅝	⅜	½	2½	¾ × 2¾
12	15¾	12¾	½	⅞	1⅝	7/16	¾	3	⅞ × 3½
14	17¾	14	½	⅞	1¾	7/16	¾	3	⅞ × 3½
15	18¾	15	½	⅞	1⅞	7/16	¾	3	⅞ × 3½
16	19¾	16	½	⅞	1⅞	7/16	¾	3	⅞ × 3½
18	21¾	18	½	1	2	½	¾	3	⅞ × 3½
20	23¾	20	½	1	2	½	¾	3½	1 × 4
22	26	22	½	1⅛	2	9/16	¾	3½	1 × 4
24	28	24	½	1⅛	2	9/16	¾	3½	1 × 4

PITTSBURGH PIPING & EQUIPMENT CO.

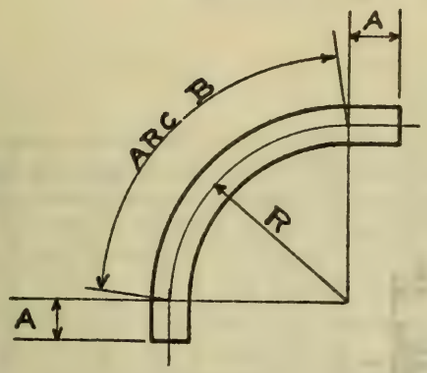
PIPE CLAMPS AND HANGERS

Size	A	B	C	d	F	G	K	Width of Rods	Size of Bolts
2	4 3/8	2 1/2	1/4	3/8	1 1/8	1 5/16	3/8	1 1/2	1/2 X 2
2 1/2	5 1/4	3	1/4	3/8	1 1/8	1 5/16	3/8	1 1/2	1/2 X 2
3	5 3/4	3 1/2	1/4	3/8	1 1/8	1 3/16	3/8	2	1/2 X 2
3 1/2	6 1/4	4	1/4	1/2	1 1/8	1/4	3/8	2	3/4 X 2 1/4
4	7	4 1/2	1/4	1/2	1 1/4	1/4	3/8	2	3/4 X 2 1/4
4 1/2	7 1/2	5 1/2	1/4	5/8	1 1/4	1 5/16	3/8	2	3/4 X 2 1/4
5	8	5 1/2	1/4	5/8	1 1/4	1 5/16	1/2	2	3/4 X 2 1/4
6	9 1/2	6 1/2	1/4	5/8	1 1/2	1 5/16	1/2	2	3/4 X 2 1/4
7	10 1/2	7 1/2	1/4	3/4	1 1/2	1 3/8	1/2	2 1/2	3/4 X 2 1/4
8	11 1/2	8 1/2	1/4	3/4	1 1/2	1 3/8	1/2	2 1/2	3/4 X 2 1/4
9	12 1/2	9 1/2	1/4	3/4	1 1/2	1 7/16	1/2	2 1/2	3/4 X 2 1/4
10	13 1/2	10 1/2	1/4	3/4	1 1/2	1 7/16	1/2	2 1/2	3/4 X 2 1/4
12	15 1/2	12 1/2	1/2	7/8	1 3/4	1 5/8	5/8	3	7/8 X 3 1/2
14	17 1/2	14	1/2	7/8	1 3/4	1 5/8	5/8	3	7/8 X 3 1/2
15	18 1/2	15	1/2	7/8	1 3/4	1 5/8	5/8	3	7/8 X 3 1/2
16	19 1/2	16	1/2	7/8	1 3/4	1 5/8	5/8	3	7/8 X 3 1/2
18	21 1/2	18	1/2	1	2	1 7/8	5/8	3	1 X 4
20	23 1/2	20	1/2	1	2	1 7/8	5/8	3 1/2	1 X 4
22	25	22	1/2	1 1/8	2	1 15/16	5/8	3 1/2	1 X 4
24	28	24	1/2	1 1/8	2	1 15/16	5/8	3 1/2	1 X 4

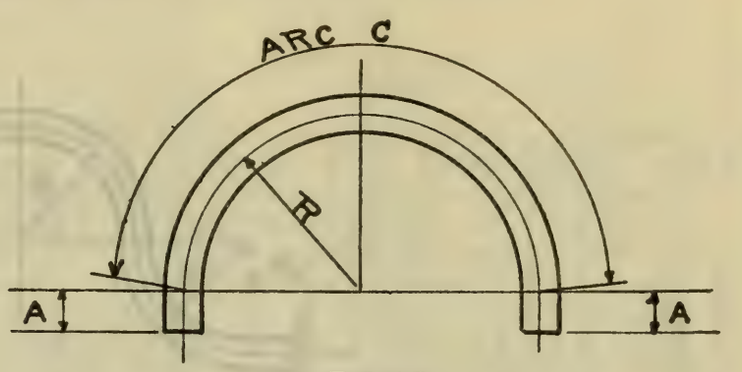
PITTSBURGH PIPING & EQUIPMENT CO.

PIPE BENDS

REGULAR, MININUM AND EXTRA MININUM RADII



SQUARE BEND



U-BEND

SIZE	A	STANDARD RADIUS			MININUM RADIUS			EXTRA MININUM RADIUS ON EXTRA STRONG PIPE ONLY		
		R	ARC-B	ARC-C	R	ARC-B	ARC-C	R	ARC-B	ARC-C
1/8"	3/4"	3"	4 3/4"	9 1/2"	1"	1 9/16"	3 1/8"	1/2"	13/16"	1 5/8"
1/4	1	3 1/2	5 1/2	11	1 1/4	2	4	1/2	13/16	1 5/8
3/8	1 1/4	4	6 1/4	1-0 1/2"	1 1/2	2 3/8	4 3/4	3/4	1 3/16	2 3/8
1/2	1 1/2	5	7 7/8	1-3 3/4	1 3/4	2 3/4	5 1/2	1 1/4	2	4
3/4	1 3/4	6	9 7/16	1-6 7/8	2	3 1/8	6 1/4	1 1/2	2 3/8	4 3/4
1	2 1/4	7	11	1-10	2 1/4	3 9/16	7 1/8	2	3 1/8	6 1/4
1 1/4	2 1/2	8	1-0 9/16"	2-1 1/8	2 3/4	4 3/8	8 5/8	2 1/2	3 15/16	7 7/8
1 1/2	2 3/4	10	1-3 11/16	2-7 3/8	3 1/4	5 1/8	10 1/4	3	4 3/4	9 1/2
2	3	1-0"	1-6 7/8	3-1 3/4	4 1/2	7 1/16	1'-2 1/8"	4	6 1/4	1'-0 1/2"
2 1/2	3 1/2	1-2	1-10	3-8	6	9 7/16	1-6 7/8	5	7 7/8	1-3 3/4
3	4	1-6	2-4 1/4	4-8 1/2	7	11	1-10	6	9 7/16	1-6 7/8
3 1/2	4 1/2	1-8	2-7 3/8	5-2 7/8	9	1'-2 1/8"	2-4 1/4	8	1-0 9/16"	2-1 1/8
4	5	2-0	3-1 11/16	6-3 3/8	1'-0"	1-6 7/8	3-1 3/4	10	1-3 11/16	2-7 3/8
4 1/2	5 1/2	2-2	3-4 7/8	6-9 3/4	1-3	1-11 9/16	3-11 1/8	1'-0"	1-6 7/8	3-1 3/4
5	6	2-6	3-11 1/8	7-10 1/4	1-6	2-4 1/4	4-8 1/2	1-3	1-11 9/16	3-11 1/8
6	6 1/2	3-0	4-8 1/2	9-5	2-0	3-1 11/16	6-3 3/8	1-6	2-4 1/4	4-8 1/2
7	7	4-0	6-3 3/8	12-6 3/4	2-4	3-8	7-4	1-9	2-9	5-6
8	8	4-6	7-0 13/16	14-1 5/8	2-8	4-2 1/4	8-4 1/2	2-0	3-1 11/16	6-3 3/8
9	10	5-0	7-10 1/4	15-8 1/2	3-6	5-6	11-0	2-3	3-6 3/8	7-0 3/4
10	12	5-6	8-7 11/16	17-3 5/16	4-0	6-3 3/8	12-6 3/4	2-6	3-11 1/8	7-10 1/4
12	14	7-0	11-0	22-0	5-0	7-10 1/4	15-8 1/2	3-0	4-8 1/2	9-5 1/8
14	18	8-0	12-6 7/8		6-0	9-5 1/8		4-0	6-3 3/8	12-6 3/4
15	20	9-0	14-1 5/8		6-6	10-2 1/2		4-6	7-0 13/16	14-1 5/8
16	22	10-0	15-8 1/2		7-0	11-0		5-6	8-7 11/16	17-3 3/8
18	24	11-0	17-3 3/8		8-0	12-6 7/8		6-6	10-2 1/2	
20	24	12-0	18-10 1/4		9-0	14-1 5/8		8-0	12-6 3/4	

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE BENDS

REGULAR, MINIMUM AND EXTRA MINIMUM RADII

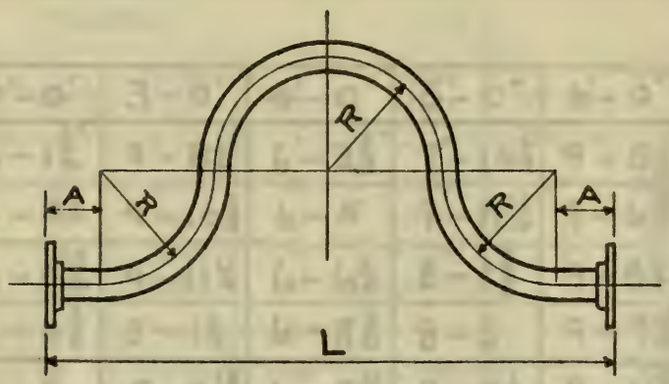
U - BEND

SQUARE BENDS

SIZE	A	STANDARD RADIUS R	ARC - B	ARC - C	MINIMUM RADIUS R	ARC - B	ARC - C	ON EXTRA STRONG PIPE ONLY R	ARC - B	ARC - C
⅛	⅝	3	4⅜	12	1	1⅝	3⅛	½	¾	1⅜
¼	1	3½	5⅛	11	1½	2	4	¾	1	1⅝
⅜	1¼	4	5¾	1'-0½"	1½	2⅜	4⅝	1	1⅜	1⅞
½	1½	5	7⅜	1'-1½"	1¾	2½	5⅛	1¼	2	2⅜
¾	1¾	6	9⅛	1'-1½"	2	2⅞	5⅝	1½	2¼	2⅞
1	2½	7	11	1'-10"	2½	3⅜	7⅛	2	3⅛	3⅝
1¼	2⅞	8	1'-0⅝"	2'-1⅛"	3	4⅛	8⅜	2½	3⅝	4⅜
1½	3⅜	10	1'-2⅜"	2'-3⅛"	3½	5	10⅛	3	4⅛	5⅛
2	3	1'-0"	1'-4⅜"	3'-1⅛"	4½	7⅛	1'-2⅜"	4	5⅜	6⅝
2½	3½	1'-2	1'-10"	3'-8"	5½	9⅛	1'-5⅜"	5	6⅞	8⅜
3	4	1'-4	2'-4⅛"	4'-8⅛"	7	11	1'-8"	6	8⅜	10⅛
3½	4½	1'-8	2'-7⅜"	5'-2⅜"	9	1'-2⅜"	2'-4⅝"	8	10⅝	12⅞
4	5	2'-0	3'-1⅝"	6'-3⅜"	1'-4"	1'-6⅜"	3'-1⅝"	10	1'-3⅜"	2'-7⅜"
4½	5½	2'-2	3'-6⅜"	7'-1⅜"	1'-8	1'-11⅝"	3'-11⅜"	1'-0"	1'-6⅜"	3'-1⅝"
5	6	2'-6	3'-11⅛"	7'-11⅛"	1'-10	2'-4⅜"	4'-8½"	1'-3	1'-11⅛"	3'-11⅜"
6	6½	3'-0	4'-9½"	9'-7"	2'-4"	3'-1⅝"	6'-3⅜"	1'-4	2'-4⅜"	4'-8½"
7	7	4'-0	5'-4⅜"	10'-8⅜"	2'-8	3'-6⅜"	7'-1⅜"	1'-7	2'-7⅜"	5'-2⅜"
8	8	4'-6	6'-2⅝"	12'-5"	3'-0	4'-0⅝"	8'-0⅝"	2'-0	3'-1⅝"	6'-3⅜"
9	10	5'-0	7'-0⅛"	14'-0⅛"	3'-6	4'-7⅝"	9'-2⅜"	2'-3	3'-6⅜"	7'-0⅜"
10	12	5'-6	7'-9⅝"	15'-6⅝"	4'-0	5'-3⅛"	10'-6⅛"	2'-6	3'-11⅛"	7'-10⅝"
12	14	7'-0	9'-6⅜"	19'-0⅜"	5'-0	6'-6⅝"	13'-0⅝"	3'-0	4'-8½"	9'-5⅛"
14	18	8'-0	10'-5⅛"	20'-10⅛"	6'-0	7'-10⅛"	15'-8⅛"	4'-0	5'-3⅛"	10'-6⅛"
15	20	9'-0	11'-4⅛"	22'-8⅛"	6'-6	8'-5⅛"	16'-10⅛"	4'-6	5'-10⅝"	11'-8⅝"
16	24	10'-0	12'-3⅛"	24'-6⅛"	7'-0	9'-1⅛"	18'-2⅛"	5'-0	6'-6⅝"	13'-0⅝"
18	24	11'-0	13'-2⅛"	26'-4⅛"	8'-0	10'-4⅛"	20'-8⅛"	6'-0	7'-10⅛"	15'-8⅛"
20	24	12'-0	14'-1⅛"	28'-2⅛"	9'-0	11'-7⅛"	23'-2⅛"	7'-0	9'-1⅛"	18'-2⅛"

PITTSBURGH PIPING & EQUIPMENT CO.

EXPANSION U BENDS
STANDARD STEEL PIPE



Note:- Steel Flanges should always be used on expansion joints.

SIZE	A	R	L	TOTAL PIPE REQUIRED
2	3	1'-6"	6'-6"	9'-11"
2½	3½	1'-8"	7'-3"	11'-0⅝"
3	4	1'-9"	7'-8"	11'-8"
3½	4½	1'-10½"	8'-3"	12'-6⅜"
4	5	2'-0"	8'-10"	13'-4⅞"
4½	5½	2'-3"	9'-11"	15'-0⅝"
5	6	2'-6"	11'-0"	16'-8½"
6	6½	2'-9"	12'-1"	18'-4¼"
7	7	3'-0"	13'-2"	20'-0¼"
8	8	3'-2"	14'-0"	21'-2¾"
9	10	3'-6"	15'-8"	23'-7⅞"
10	12	4'-0"	18'-0"	27'-1⅝"
12	14	5'-0"	22'-4"	33'-9"

PITTSBURGH PIPING & EQUIPMENT CO.

EXPANSION U BENDS

STANDARD STEEL PIPE

Note:- Steel Flanges should always be used on expansion joints.

SIZE	A	R	L	TOTAL PIPE REQUIRED
2	3	1'-6"	5'-6"	9'-11"
2½	3½	1'-8"	7'-3"	11'-0⅜"
3	4	1'-9"	7'-8"	11'-8"
3½	4½	1'-10½"	8'-5"	12'-6⅜"
4	5	2'-0"	8'-10"	13'-4⅜"
4½	5½	2'-3"	9'-11"	15'-0⅜"
5	6	2'-6"	11'-0"	16'-8½"
6	6½	2'-9"	12'-1"	18'-4½"
7	7	3'-0"	13'-2"	20'-0½"
8	8	3'-2"	14'-0	21'-2½"
9	10	3'-6"	15'-8"	23'-7⅜"
10	12	4'-0"	18'-0"	27'-1⅜"
12	14	5'-0"	22'-4"	33'-4"

PITTSBURGH PIPING & EQUIPMENT CO.

LENGTHS OF 90 DEGREE ARCS

RAD	0'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	RAD.	ARC
0"	0"	1'-6 7/8"	3'-1 3/4"	4'-8 1/2"	6'-3 3/8"	7'-10 1/4"	9'-5 1/8"	11'-0"	1 1/4"	2"
1	1 9/16	1-8 3/8	3-3 1/4	4-10 1/8	6-5	7-11 13/16	9-6 5/8	11-1 1/2	1 1/2	2 3/8
2	3 1/8	1-10	3-4 13/16	4-11 11/16	6-6 1/2	8-1 3/8	9-8 1/4	11-3 1/16	1 3/4	2 3/4
3	4 3/4	1-11 9/16	3-6 3/8	5-1 1/4	6-8 1/8	8-3	9-9 13/16	11-4 5/8	2 1/4	3 9/16
4	6 1/4	2-1 1/8	3-8	5-2 13/16	6-9 11/16	8-4 1/2	9-11 3/8	11-6 1/4	2 1/2	3 15/16
5	7 7/8	2-2 11/16	3-9 9/16	5-4 3/8	6-11 1/4	8-6 1/8	10-0 15/16	11-7 13/16	2 3/4	4 3/8
6	9 7/16	2-4 1/4	3-11 1/8	5-6	7-0 3/4	8-7 11/16	10-2 1/2	11-9 3/8	3 1/4	5 1/8
7	11	2-5 7/8	4-0 11/16	5-7 1/2	7-2 3/8	8-9 1/4	10-4 1/8	11-10 15/16	3 1/2	5 1/2
8	1-0 9/16	2-7 3/8	4-2 1/4	5-9 1/8	7-4	8-10 13/16	10-5 5/8	12-0 1/2	3 3/4	5 7/8
9	1-2 1/8	2-9	4-3 13/16	5-10 11/16	7-5 1/2	9-0 3/8	10-7 1/4	12-2 1/16	4 1/4	6 11/16
10	1-3 11/16	2-10 9/16	4-5 3/8	6-0 1/4	7-7 1/8	9-2	10-8 13/16	12-3 5/8	4 1/2	7 1/16
11	1-5 1/4	3-0 1/8	4-7	6-1 13/16	7-8 11/16	9-3 1/2	10-10 3/8	12-5 1/4	4 3/4	7 7/16
RAD	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	5 1/4	8 1/4
0"	12'-6 3/4"	14'-1 5/8"	15'-8 1/2"	17'-3 3/8"	18'-10 3/16"	20'-5 1/16"	21'-11 7/8"	23'-6 3/4"	5 1/2	8 5/8
1	12-8 3/8	14-3 1/4	15-10 1/16	17-4 7/8	18-11 3/4	20-6 5/8	22-1 1/2	23-8 5/16	5 3/4	9
2	12-9 15/16	14-4 13/16	15-11 5/8	17-6 1/2	19-1 5/16	20-8 3/16	22-3 1/16	23-9 7/8	6 1/2	10 3/16
3	12-11 1/2	14-6 3/8	16-1 1/4	17-8 1/16	19-2 7/8	20-9 3/4	22-4 5/8	23-11 1/2	7 1/2	11 3/4
4	13-1 1/16	14-7 15/16	16-2 3/4	17-9 5/8	19-4 1/2	20-11 5/16	22-6 1/4	24-1	8 1/2	13 3/8
5	13-2 5/8	14-9 1/2	16-4 3/8	17-11 3/16	19-6 1/16	21-0 7/8	22-7 3/4	24-2 5/8	9 1/2	14 15/16
6	13-4 1/4	14-11 1/16	16-5 7/8	18-0 3/4	19-7 5/8	21-2 1/2	22-9 1/4	24-4 3/16	10 1/2	16 1/2
7	13-5 13/16	15-0 5/8	16-7 1/2	18-2 5/16	19-9 3/16	21-4	22-10 7/8	24-5 3/4	11 1/2	18 1/16
8	13-7 3/8	15-2 1/4	16-9 1/16	18-3 7/8	19-10 3/4	21-5 5/8	23-0 1/2	24-7 5/16	12 1/2	19 5/8
9	13-8 15/16	15-3 3/4	16-10 5/8	18-5 1/2	20-0 5/16	21-7 3/16	23-2 1/16	24-8 7/8	13 1/2	21 3/16
10	13-10 1/2	15-5 3/8	17-0 1/4	18-7 1/16	20-1 7/8	21-8 3/4	23-3 5/8	24-10 1/2	14 1/2	22 3/4
11	14-0 1/16	15-6 7/8	17-1 3/4	18-8 5/8	20-3 1/2	21-10 5/16	23-5 3/16	25-0	15 1/2	24 3/8

PITTSBURGH PIPING & EQUIPMENT CO.

LENGTHS OF 90 DEGREE ARCS

RAD	0'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	ARC
0"	0"	1'-6 3/8"	3'-1 1/8"	4'-8 1/4"	6'-3 3/8"	7'-1 3/4"	9'-5 1/8"	11'-0"	1 1/4"
1	1 1/8"	1'-8 3/8"	3'-3 1/4"	4'-10 3/8"	6'-5"	7'-11 1/2"	9'-6 5/8"	11'-1 1/2"	1 1/2"
2	3/8"	1'-10"	3'-4 1/8"	4'-11 1/8"	6'-6 1/2"	8'-1"	9'-8 5/8"	11'-3 1/8"	1 3/4"
3	4 3/4"	1'-11 1/8"	3'-6 3/8"	5'-1 1/4"	6'-8 3/8"	8'-3"	9'-10 1/4"	11'-4 5/8"	2 1/4"
4	6 1/4"	2'-1 3/8"	3'-8"	5'-2 7/8"	6'-9 1/4"	8'-4 1/2"	9'-11 5/8"	11'-6 1/4"	2 1/2"
5	7 5/8"	2'-2 7/8"	3'-9 1/8"	5'-4 3/8"	6'-11 1/4"	8'-6 3/8"	10'-0 1/2"	11'-7 7/8"	2 7/8"
6	9 1/8"	2'-4 1/4"	3'-11 3/8"	5'-6"	7'-0 1/2"	8'-7 7/8"	10'-2 1/2"	11'-9 3/8"	3 1/4"
7	11"	2'-5 5/8"	4'-0 1/4"	5'-7 1/2"	7'-2 5/8"	8'-9 1/4"	10'-4 5/8"	11'-10 7/8"	3 1/2"
8	1'-0 3/8"	2'-7 1/8"	4'-2 1/4"	5'-9 3/8"	7'-4"	8'-10 7/8"	10'-5 7/8"	12'-0 1/2"	3 3/4"
9	1'-2 1/4"	2'-9"	4'-3 7/8"	5'-10 7/8"	7'-5 1/2"	9'-0 3/8"	10'-7 3/8"	12'-2 1/8"	4 1/4"
10	1'-3 7/8"	2'-10 3/8"	4'-5 3/8"	6'-0 3/4"	7'-7 5/8"	9'-2"	10'-8 7/8"	12'-3 3/8"	4 1/2"
11	1'-5 3/4"	3'-0 1/8"	4'-7"	6'-2 7/8"	7'-9 3/4"	9'-3 1/2"	10'-10 3/8"	12'-4 3/4"	4 3/4"
RAD	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	5 1/4"
0"	12'-6 1/4"	14'-1 5/8"	15'-8 1/4"	17'-3 5/8"	18'-10 1/4"	20'-5 1/8"	21'-11 5/8"	23'-6 1/4"	5 1/2"
1	12'-8 5/8"	14'-3 1/4"	15'-10 1/8"	17'-4 5/8"	18'-11 1/8"	20'-5 5/8"	22'-1"	23'-8 1/8"	5 3/4"
2	12'-9 1/8"	14'-4 5/8"	15'-11 5/8"	17'-6 1/2"	19'-1 1/8"	20'-8 1/8"	22'-3 1/8"	23'-9 3/4"	6 1/4"
3	12'-11 1/4"	14'-6 1/8"	16'-1 1/4"	17'-8 1/4"	19'-2 5/8"	20'-9 7/8"	22'-4 5/8"	23'-11 1/4"	6 1/2"
4	13'-1 1/8"	14'-7 5/8"	16'-2 3/4"	17'-9 7/8"	19'-4 3/8"	20'-11 3/8"	22'-6 3/8"	24'-1"	6 3/4"
5	13'-2 5/8"	14'-9 1/2"	16'-4 3/8"	17'-11 3/8"	19'-6 1/4"	21'-0 3/8"	22'-7 5/8"	24'-2 5/8"	7 1/4"
6	13'-4 1/4"	14'-11 1/8"	16'-5 7/8"	18'-0 3/4"	19'-7 7/8"	21'-2"	22'-9 1/4"	24'-4 1/4"	7 1/2"
7	13'-5 7/8"	15'-0 5/8"	16'-7 1/2"	18'-2 3/8"	19'-9 3/8"	21'-3 5/8"	22'-10 7/8"	24'-5 7/8"	7 3/4"
8	13'-7 3/8"	15'-2 1/4"	16'-9 1/8"	18'-3 7/8"	19'-11"	21'-5 1/4"	23'-0 3/8"	24'-7 3/8"	8 1/4"
9	13'-8 7/8"	15'-3 7/8"	16'-10 5/8"	18'-5 1/2"	20'-0 5/8"	21'-6 7/8"	23'-2"	24'-8 7/8"	8 1/2"
10	13'-10 1/2"	15'-5 3/8"	17'-0 1/4"	18'-7 1/4"	20'-2 1/4"	21'-8 3/8"	23'-3 5/8"	24'-10 1/2"	8 3/4"
11	14'-0 1/8"	15'-6 7/8"	17'-1 7/8"	18'-8 7/8"	20'-3 7/8"	21'-10 1/8"	23'-5 1/4"	25'-0"	9 1/8"

PITTSBURGH PIPING & EQUIPMENT CO.

LENGTH OF CIRCULAR ARC SUBTENDED BY ANY ANGLE

RADIUS BEING 1.00

DEGREES						MINUTES			
Degrees	Length of Arc	Degrees	Length of Arc	Degrees	Length of Arc	Minutes	Length of Arc	Minutes	Length of Arc
1	.0175	31	.5411	61	1.0647	1	.000290	31	.009017
2	.0349	32	.5585	62	1.0821	2	.000581	32	.009308
3	.0524	33	.5760	63	1.0996	3	.000872	33	.009599
4	.0698	34	.5934	64	1.1170	4	.001163	34	.009890
5	.0873	35	.6109	65	1.1345	5	.001454	35	.010181
6	.1047	36	.6283	66	1.1519	6	.001745	36	.010472
7	.1222	37	.6458	67	1.1694	7	.002036	37	.010762
8	.1396	38	.6632	68	1.1868	8	.002327	38	.011053
9	.1571	39	.6807	69	1.2043	9	.002618	39	.011344
10	.1745	40	.6981	70	1.2217	10	.002908	40	.011635
11	.1920	41	.7156	71	1.2392	11	.003199	41	.011926
12	.2094	42	.7330	72	1.2566	12	.003490	42	.012217
13	.2269	43	.7505	73	1.2741	13	.003781	43	.012508
14	.2443	44	.7679	74	1.2915	14	.004072	44	.012799
15	.2618	45	.7854	75	1.3090	15	.004363	45	.013090
16	.2793	46	.8029	76	1.3265	16	.004654	46	.013380
17	.2967	47	.8203	77	1.3439	17	.004945	47	.013671
18	.3142	48	.8378	78	1.3614	18	.005236	48	.013962
19	.3316	49	.8552	79	1.3788	19	.005526	49	.014253
20	.3491	50	.8727	80	1.3963	20	.005817	50	.014544
21	.3665	51	.8901	81	1.4137	21	.006108	51	.014835
22	.3840	52	.9076	82	1.4312	22	.006399	52	.015126
23	.4014	53	.9250	83	1.4486	23	.006690	53	.015417
24	.4189	54	.9425	84	1.4661	24	.006981	54	.015708
25	.4363	55	.9599	85	1.4835	25	.007272	55	.015898
26	.4538	56	.9774	86	1.5010	26	.007563	56	.016289
27	.4712	57	.9948	87	1.5184	27	.007854	57	.016580
28	.4887	58	1.0123	88	1.5359	28	.008144	58	.016871
29	.5061	59	1.0297	89	1.5533	29	.008435	59	.017162
30	.5236	60	1.0472	90	1.5708	30	.008726	60	.017543

PITTSBURGH PIPING & EQUIPMENT CO.

LENGTH OF CIRCULAR ARC SUBTENDED BY ANY ANGLE

RADIUS BEING 1.00

DEGREES					
Degrees	Length of Arc	Degrees	Length of Arc	Degrees	Length of Arc
1	.0175	31	.5411	61	1.0647
2	.0349	32	.5585	62	1.0821
3	.0524	33	.0960	63	1.0996
4	.0698	34	.5934	64	1.1170
5	.0872	35	.6109	65	1.1345
6	.1047	36	.6283	66	1.1519
7	.1222	37	.6458	67	1.1694
8	.1396	38	.6632	68	1.1868
9	.1571	39	.6807	69	1.2043
10	.1745	40	.6981	70	1.2217
11	.1920	41	.7156	71	1.2392
12	.2094	42	.7330	72	1.2566
13	.2269	43	.7505	73	1.2741
14	.2443	44	.7679	74	1.2915
15	.2618	45	.7854	75	1.3090
16	.2793	46	.8028	76	1.3265
17	.2967	47	.8203	77	1.3439
18	.3142	48	.8378	78	1.3614
19	.3316	49	.8552	79	1.3788
20	.3491	50	.8727	80	1.3963
21	.3665	51	.8901	81	1.4137
22	.3840	52	.9076	82	1.4312
23	.4014	53	.9250	83	1.4486
24	.4189	54	.9425	84	1.4661
25	.4363	55	.9599	85	1.4835
26	.4538	56	.9774	86	1.5010
27	.4712	57	.9948	87	1.5184
28	.4887	58	1.0123	88	1.5359
29	.5061	59	1.0297	89	1.5533
30	.5236	60	1.0472	90	1.5708

MINUTES			
Minutes	Length of Arc	Minutes	Length of Arc
1	.0002909	31	.0090217
2	.0005817	32	.0093126
3	.0008727	33	.0096035
4	.0011635	34	.0098944
5	.0014544	35	.0101853
6	.0017453	36	.0104762
7	.0020362	37	.0107672
8	.0023271	38	.0110581
9	.0026180	39	.0113490
10	.0029089	40	.0116399
11	.0031999	41	.0119308
12	.0034908	42	.0122217
13	.0037817	43	.0125126
14	.0040726	44	.0128036
15	.0043635	45	.0130945
16	.0046544	46	.0133854
17	.0049453	47	.0136763
18	.0052363	48	.0139672
19	.0055272	49	.0142581
20	.0058181	50	.0145490
21	.0061090	51	.0148399
22	.0063999	52	.0151309
23	.0066908	53	.0154218
24	.0069817	54	.0157127
25	.0072727	55	.0160036
26	.0075636	56	.0162945
27	.0078544	57	.0165854
28	.0081454	58	.0168763
29	.0084363	59	.0171672
30	.0087272	60	.0174581

WEIGHTS OF CYLINDRICAL CASTINGS

IN POUNDS PER INCH

NOTE:—To compute the weight of hollow cylindrical iron castings subtract the weight for inside diameter from the weight of outside diameter and multiply by the length in inches.

Add 10 per cent. for steel and 15 per cent. for brass.

Dia.	0	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"
0	.00	.0034	.0137	.0309	.0550	.0859	.1237	.1684
1	.22	.2783	.3444	.4144	.4956	.5996	.6740	.7728
2	.88	.9940	1.11	1.24	1.37	1.51	1.66	1.82
3	1.98	2.15	2.32	2.51	2.69	2.89	3.09	3.30
4	3.52	3.74	3.97	4.21	4.45	4.70	4.96	5.22
5	5.50	5.78	6.06	6.35	6.65	6.96	7.27	7.59
6	7.92	8.25	8.59	8.94	9.29	9.65	10.02	10.39
7	10.77	11.16	11.56	11.96	12.37	12.78	13.21	13.64
8	14.07	14.52	14.97	15.42	15.89	16.36	16.84	17.32
9	17.81	18.31	18.81	19.33	19.85	20.37	20.90	21.44
10	22.00	22.54	23.10	23.67	24.25	24.82	25.41	26.01
11	26.61	27.22	27.83	28.45	29.08	29.72	30.36	31.01
12	31.67	32.33	33.00	33.68	34.36	35.05	35.75	36.45
13	37.16	37.88	38.61	39.34	40.08	40.82	41.58	42.34
14	43.10	43.87	44.65	45.44	46.23	47.04	47.84	48.66
15	49.48	50.31	51.14	51.98	52.83	53.69	54.55	55.42
16	56.30	57.18	58.07	58.97	59.87	60.78	61.70	62.62
17	63.55	64.49	65.44	66.39	67.35	68.31	69.29	70.27
18	71.25	72.25	73.25	74.25	75.26	76.28	77.31	78.35
19	79.39	80.43	81.49	82.55	83.62	84.70	85.78	86.87
20	87.96	89.07	90.18	91.29	92.42	93.55	94.68	95.83
21	96.98	98.14	99.30	100.47	101.65	102.84	104.03	105.23
22	106.44	107.65	108.87	110.10	111.33	112.57	113.82	115.07
23	116.33	117.60	118.88	120.16	121.45	122.74	124.04	125.35
24	126.67	127.99	129.32	130.66	132.00	133.35	134.71	136.07
25	137.44	138.82	140.21	141.60	143.00	144.40	145.82	147.24
26	148.66	150.09	151.53	152.98	154.43	155.89	157.36	158.84
27	160.32	161.80	163.30	164.80	166.31	167.82	169.35	170.88
28	172.40	173.95	175.50	177.06	178.62	180.19	181.77	183.36
29	184.94	186.54	188.15	189.76	191.38	193.00	194.60	196.30
30	197.90	199.50	201.23	202.90	204.60	206.30	207.94	209.60

WEIGHTS OF CYLINDRICAL CASTINGS

IN POUNDS PER INCH

NOTE.—To compute the weight of hollow cylindrical iron castings multiply the weight for inside diameter from the weight of outside diameter and multiply by the length in inches.

Add 10 per cent. for steel and 15 per cent. for brass.

Dia.	0	⅛"	¼"	⅜"	½"	⅝"	¾"
0	.00	.0218	.0437	.0655	.0873	.1092	.1310
1	.22	.2837	.3055	.3273	.3491	.3710	.3928
2	.86	1.0040	1.1152	1.1264	1.1376	1.1488	1.1600
3	1.98	2.0912	2.2024	2.3136	2.4248	2.5360	2.6472
4	3.52	3.6312	3.7424	3.8536	3.9648	4.0760	4.1872
5	5.50	5.6112	5.7224	5.8336	5.9448	6.0560	6.1672
6	7.92	8.0312	8.1424	8.2536	8.3648	8.4760	8.5872
7	10.78	10.9912	11.1024	11.2136	11.3248	11.4360	11.5472
8	14.07	14.2312	14.3424	14.4536	14.5648	14.6760	14.7872
9	17.81	17.9712	18.0824	18.1936	18.3048	18.4160	18.5272
10	21.99	22.1512	22.2624	22.3736	22.4848	22.5960	22.7072
11	26.61	26.7712	26.8824	26.9936	27.1048	27.2160	27.3272
12	31.67	31.7912	31.9024	32.0136	32.1248	32.2360	32.3472
13	37.16	37.2912	37.4024	37.5136	37.6248	37.7360	37.8472
14	43.10	43.2312	43.3424	43.4536	43.5648	43.6760	43.7872
15	49.48	49.6112	49.7224	49.8336	49.9448	50.0560	50.1672
16	56.30	56.4312	56.5424	56.6536	56.7648	56.8760	56.9872
17	63.56	63.6912	63.8024	63.9136	64.0248	64.1360	64.2472
18	71.25	71.3712	71.4824	71.5936	71.7048	71.8160	71.9272
19	79.39	79.5112	79.6224	79.7336	79.8448	79.9560	80.0672
20	87.96	88.0712	88.1824	88.2936	88.4048	88.5160	88.6272
21	96.98	97.0912	97.2024	97.3136	97.4248	97.5360	97.6472
22	106.44	106.5512	106.6624	106.7736	106.8848	106.9960	107.1072
23	116.33	116.4412	116.5524	116.6636	116.7748	116.8860	116.9972
24	126.67	126.7812	126.8924	127.0036	127.1148	127.2260	127.3372
25	137.44	137.5512	137.6624	137.7736	137.8848	137.9960	138.1072
26	148.66	150.09	151.53	152.98	154.43	155.89	157.36	158.84
27	160.32	161.80	163.30	164.80	166.31	167.82	169.35	170.88
28	172.40	173.95	175.50	177.06	178.62	180.19	181.77	183.36
29	184.94	186.54	188.15	189.76	191.38	193.00	194.60	196.30
30	197.90	199.60	201.23	202.90	204.60	206.30	207.94	209.60

WEIGHTS OF CYLINDRICAL CASTINGS

IN POUNDS PER INCH

NOTE:—To compute the weight of hollow cylindrical iron castings, subtract the weight for inside diameter from the weight of outside diameter and multiply by the length in inches.

Add 10 per cent. for steel and 15 per cent. for brass.

Dia.	0	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"
31	211.34	213.04	214.76	216.48	217.21	219.94	221.68	223.43
32	225.20	226.95	228.70	230.50	232.30	234.00	235.90	237.70
33	239.50	241.30	243.10	245.00	246.80	248.60	250.50	252.40
34	254.20	256.00	258.00	259.90	261.70	263.60	265.50	267.50
35	269.40	271.30	273.30	275.20	277.10	279.10	281.10	283.00
36	285.00	287.00	289.00	291.00	293.00	295.00	297.00	299.00
37	301.00	303.10	305.10	307.20	309.30	311.30	313.40	315.50
38	317.50	319.60	321.70	323.80	326.00	328.10	330.20	332.30
39	334.50	336.60	338.80	341.00	343.10	345.30	347.50	349.70
40	351.90	354.00	356.30	358.50	360.70	362.90	365.20	367.40
41	369.70	371.90	374.20	376.50	378.70	381.00	383.30	385.60
42	387.90	390.20	392.60	394.90	397.20	399.60	401.90	404.30
43	406.60	409.00	411.40	413.70	416.10	418.50	420.90	423.30
44	425.70	428.20	430.60	433.00	435.50	437.90	440.40	442.90
45	445.30	447.80	450.30	452.80	455.30	457.80	460.30	462.80
46	465.30	467.90	470.40	472.90	475.50	478.00	480.60	483.20
47	485.80	488.40	491.00	493.60	496.20	498.80	501.40	504.00
48	506.70	509.30	512.00	514.60	517.30	521.00	522.60	525.30
49	528.00	530.70	533.40	536.10	538.80	541.60	544.30	547.00
50	549.80	552.50	555.30	558.10	560.80	563.60	566.30	569.20
51	572.00	574.80	577.60	580.40	583.30	586.10	588.90	591.80
52	594.60	597.60	600.40	603.30	606.10	609.00	611.80	614.90
53	617.70	620.60	623.60	626.50	629.40	632.40	635.30	638.30
54	641.20	644.20	647.20	650.20	653.20	656.20	659.20	662.20
55	665.00	668.00	671.00	674.00	677.00	680.00	683.00	686.00
56	690.00	693.00	696.00	699.00	702.00	705.00	708.00	711.00
57	714.00	718.00	721.00	724.00	727.00	730.00	733.00	736.00
58	740.00	743.00	746.00	749.00	753.00	756.00	759.00	762.00
59	766.00	769.00	772.00	775.00	779.00	782.00	785.00	788.00
60	791.00	795.00	798.00	802.00	805.00	808.00	811.00	815.00

WEIGHTS OF CYLINDRICAL CASTINGS

IN POUNDS PER INCH

NOTE:—To compute the weight of hollow cylindrical iron castings, subtract the weight for inside diameter from the weight of outside diameter and multiply by the length in inches.

Add 10 per cent. for steel and 15 per cent. for brass.

Dia.	0	⅛"	¼"	⅜"	½"	⅝"	¾"	⅞"
31	211.34	213.04	214.75	216.48	217.21	219.94	221.68	223.43
32	226.20	226.95	228.70	230.50	232.30	234.00	235.90	237.70
33	239.50	241.30	243.10	245.00	246.80	248.60	250.50	252.40
34	254.20	256.00	258.00	259.90	261.70	263.60	265.50	267.50
35	269.40	271.30	273.30	275.20	277.10	279.10	281.10	283.00
36	285.00	287.00	289.00	291.00	293.00	295.00	297.00	299.00
37	301.00	303.10	305.10	307.20	309.30	311.40	313.40	315.50
38	317.50	319.60	321.70	323.80	326.00	328.10	330.20	332.30
39	334.50	336.60	338.80	341.00	343.10	345.20	347.50	349.70
40	351.90	354.00	356.30	358.50	360.70	362.90	365.20	367.40
41	369.70	371.90	374.20	376.50	378.70	381.00	383.30	385.60
42	387.90	390.20	392.60	394.90	397.20	399.50	401.90	404.30
43	406.60	409.00	411.40	413.70	416.10	418.50	420.90	423.30
44	425.70	428.20	430.60	433.00	435.50	437.90	440.40	442.90
45	445.30	447.80	450.30	452.80	455.30	457.80	460.30	462.80
46	465.30	467.90	470.40	472.90	475.50	478.00	480.60	483.20
47	485.80	488.40	491.00	493.60	496.20	498.80	501.40	504.00
48	506.70	509.30	512.00	514.60	517.30	520.00	522.60	525.30
49	528.00	530.70	533.40	536.10	538.80	541.50	544.30	547.00
50	549.80	552.50	555.30	558.10	560.80	563.60	566.30	569.20
51	572.00	574.80	577.60	580.40	583.30	586.10	588.90	591.80
52	594.60	597.60	600.40	603.30	606.10	609.00	611.80	614.90
53	617.70	620.60	623.60	626.50	629.40	632.40	635.30	638.30
54	641.20	644.20	647.20	650.20	653.20	656.20	659.20	662.20
55	665.00	668.00	671.00	674.00	677.00	680.00	683.00	686.00
56	690.00	693.00	696.00	699.00	702.00	705.00	708.00	711.00
57	714.00	718.00	721.00	724.00	727.00	730.00	733.00	736.00
58	740.00	743.00	746.00	749.00	753.00	756.00	759.00	762.00
59	766.00	769.00	772.00	775.00	779.00	782.00	785.00	788.00
60	791.00	795.00	798.00	802.00	805.00	808.00	811.00	815.00

WEIGHTS OF CYLINDRICAL CASTINGS

IN POUNDS PER INCH

NOTE:—To compute the weight of hollow cylindrical iron castings, subtract the weight for inside diameter from the weight of outside diameter and multiply by the length in inches.

Add 10 per cent. for steel and 15 per cent. for brass.

Dia.	0″	⅛″	¼″	⅜″	½″	⅝″	¾″	⅞″
61	818.	822.	825.	829.	832.	835.	839.	842.
62	845.	849.	852.	856.	859.	862.	866.	869.
63	873.	876.	880.	883.	887.	890.	894.	897.
64	901.	904.	908.	911.	915.	918.	922.	926.
65	929.	933.	936.	940.	944.	947.	951.	954.
66	958.	962.	965.	969.	972.	976.	980.	984.
67	987.	991.	995.	998.	1002.	1006.	1009.	1013.
68	1017.	1021.	1024.	1028.	1032.	1036.	1039.	1043.
69	1047.	1051.	1054.	1058.	1062.	1066.	1070.	1074.
70	1077.	1081.	1085.	1089.	1093.	1097.	1101.	1105.
71	1109.	1112.	1116.	1120.	1124.	1128.	1132.	1136.
72	1140.	1144.	1148.	1152.	1156.	1160.	1164.	1168.
73	1172.	1176.	1180.	1184.	1188.	1192.	1196.	1200.
74	1204.	1208.	1212.	1217.	1221.	1225.	1229.	1233.
75	1237.	1241.	1245.	1249.	1254.	1258.	1262.	1266.
76	1270.	1274.	1278.	1283.	1287.	1291.	1295.	1300.
77	1304.	1308.	1312.	1317.	1321.	1325.	1329.	1333.
78	1338.	1342.	1347.	1351.	1355.	1359.	1364.	1368.
79	1373.	1377.	1381.	1385.	1390.	1394.	1399.	1403.
80	1407.	1412.	1416.	1421.	1425.	1429.	1434.	1438.
81	1443.	1447.	1452.	1456.	1461.	1465.	1470.	1474.
82	1479.	1483.	1488.	1492.	1497.	1501.	1506.	1510.
83	1515.	1520.	1524.	1529.	1533.	1538.	1543.	1547.
84	1551.	1556.	1561.	1565.	1570.	1575.	1579.	1584.
85	1589.	1593.	1598.	1603.	1607.	1611.	1617.	1622.
86	1627.	1631.	1636.	1641.	1646.	1650.	1655.	1660.
87	1665.	1669.	1674.	1679.	1684.	1688.	1693.	1698.
88	1703.	1708.	1713.	1718.	1722.	1727.	1732.	1737.
89	1742.	1747.	1752.	1757.	1761.	1767.	1771.	1776.
90	1781.	1786.	1791.	1796.	1801.	1806.	1811.	1816.
91	1821.	1826.	1831.	1836.	1841.	1846.	1851	1856.
92	1861.	1866.	1872.	1877.	1882.	1887.	1892.	1897.
93	1902.	1907.	1912.	1917.	1922.	1928.	1933.	1938.
94	1943.	1948.	1953.	1959.	1964.	1969.	1974.	1980.
95	1985.	1990.	1995.	2000.	2006.	2011.	2016.	2021.
96	2027.	2032.	2037.	2043.	2048.	2053.	2059.	2064.
97	2069.	2075.	2080.	2085.	2090.	2096.	2101.	2107.
98	2112.	2117.	2123.	2128.	2134.	2139.	2145.	2150.
99	2155.	2161.	2166.	2172.	2177.	2183.	2188.	2194.
100	2199.	2204.	2210.	2216.	2221.	2227.	2232.	2238.

WEIGHTS OF CYLINDRICAL CASTINGS

IN POUNDS PER INCH

NOTE.—To compute the weight of hollow cylindrical iron castings, subtract the weight for inside diameter from the weight of outside diameter and multiply by the length in inches.

Add 10 per cent. for steel and 15 per cent. for brass.

Dia.	⅛"	¼"	⅜"	½"	⅝"	¾"	⅞"
61	816.	822.	829.	835.	839.	842.	845.
62	844.	849.	856.	862.	866.	869.	872.
63	872.	878.	883.	889.	893.	897.	900.
64	901.	906.	911.	916.	922.	925.	928.
65	929.	934.	940.	945.	951.	954.	957.
66	958.	963.	969.	972.	979.	983.	986.
67	987.	991.	998.	1002.	1008.	1013.	1016.
68	1017.	1021.	1027.	1032.	1038.	1043.	1046.
69	1047.	1051.	1057.	1062.	1068.	1073.	1076.
70	1077.	1081.	1088	1093.	1097.	1101.	1105.
71	1109.	1112.	1118.	1123.	1129.	1132.	1136.
72	1140.	1144.	1148.	1153.	1159.	1164.	1168.
73	1172.	1176.	1180.	1184.	1189.	1195.	1200.
74	1204.	1208.	1212.	1217.	1223.	1229.	1233.
75	1237.	1241.	1245.	1249.	1254.	1258.	1262.
76	1270	1274	1278	1283.	1287.	1291.	1296.
77	1304.	1308.	1312	1317.	1321.	1325.	1329.
78	1338.	1342.	1347.	1351.	1355.	1359.	1364.
79	1373.	1377.	1381.	1385.	1391.	1394.	1403.
80	1407.	1412	1416.	1421	1425.	1429.	1434.
81	1442.	1447.	1452.	1456.	1461.	1465.	1470.
82	1479.	1483.	1488.	1492	1497.	1501.	1506.
83	1515.	1520.	1524.	1528.	1533.	1538.	1542.
84	1551.	1556.	1561.	1564.	1570.	1575.	1579
85	1589.	1593.	1598.	1600.	1607	1611.	1617.
86	1627.	1631.	1636.	1641.	1646.	1650.	1656.
87	1665.	1669.	1674.	1678.	1684.	1690.	1698.
88	1703.	1708	1712	1716.	1722.	1732.	1737.
89	1742.	1747	1752.	1761.	1767	1771.	1776.
90	1781.	1786.	1791.	1801.	1806.	1811.	1816.
91	1821.	1826.	1831.	1841.	1846.	1851	1856.
92	1861.	1866.	1872	1877.	1882	1892.	1897.
93	1902.	1907.	1912	1917.	1922	1928.	1938.
94	1943.	1948.	1953.	1958.	1964	1969.	1974.
95	1985.	1990	1995.	2000.	2011.	2016.	2021.
96	2027	2032.	2037.	2042.	2052.	2059.	2064.
97	2069.	2078.	2085.	2090.	2096.	2101.	2107.
98	2113.	2117.	2123.	2128.	2134.	2145.	2150.
99	2156.	2161.	2166.	2172.	2177.	2183.	2194.
100	2199.	2204.	2210.	2216.	2221.	2227.	2238.

PITTSBURGH PIPING & EQUIPMENT CO.

WEIGHTS PER LINEAL INCH
OF
STANDARD AND EXTRA HEAVY FITTINGS

SIZE	WEIGHT OF BODY PER INCH			WEIGHT OF ONE FLANGE			SIZE
	LIGHT	STANDARD	EXTRA HEAVY	LIGHT	STANDARD	EXTRA HEAVY	
1		.55	.66		1.88	3.35	1
1¼		.65	.77		2.59	4.39	1¼
1½		.74	.87		3.50	6.96	1½
2		.94	1.10		5.30	8.20	2
2½		1.14	1.52		7.70	11.85	2½
3		1.32	1.76		9.10	15.40	3
3½		1.52	2.01		12.41	18.80	3½
4		1.98	2.54		14.62	23.90	4
4½		2.20	2.82		14.44	26.52	4½
5		2.42	3.44		16.72	28.70	5
6		3.24	4.45		19.30	37.10	6
7		4.20	5.59		25.45	46.80	7
8	3.74	4.74	6.30	30.62	29.25	54.60	8
9	4.19	5.86	7.60	37.79	35.50	65.32	9
10	4.61	7.08	9.01	42.68	39.10	77.20	10
12	5.49	9.15	11.43	63.35	57.90	110.97	12
14	6.38	11.45	14.22	77.20	68.90	150.80	14
15	6.82	12.22	16.13	85.42	76.62	173.60	15
16	9.14	14.95	18.15	94.52	84.70	184.28	16
18	10.24	17.82	22.52	101.41	87.63	221.63	18
20	12.51	20.91	27.38	127.56	111.30	263.25	20
22	15.01	24.22	31.36	144.23	125.20	312.90	22
24	16.33	27.76	35.55	174.70	150.40	391.71	24
26	19.16	31.53	43.15	202.91	175.10	423.66	26
28	20.60	35.54	48.04	231.30	196.70	490.44	28
30	23.78	39.80	54.95	257.73	219.70	531.40	30
32	25.30	44.20	62.34	332.00	284.70	584.50	32
34	26.90	48.90	70.30	358.20	301.90	639.80	34
36	32.50	53.80	78.60	388.10	332.00	717.40	36
38	34.40	59.00	85.10	448.00	383.50	775.00	38
40	36.00	64.20	94.20	490.60	413.00	839.50	40
42	42.70	69.90	103.80	538.70	459.80	929.00	42
44	44.70	75.70	113.90	576.70	487.60	986.80	44
46	46.70	81.70	121.70	614.00	511.00	1073.00	46
48	54.10	87.90	132.60	654.60	553.20	1298.00	48
50	56.30	94.40		698.70	584.40		50
52	58.60	101.40		774.30	641.00		52
54	63.80	107.80		845.00	702.00		54
56	66.00	115.00		920.00	760.00		56
58	71.00	122.00		1006.00	831.00		58
60	77.69	135.00		1021.00	832.00		60

PITTSBURGH PIPING & EQUIPMENT CO.

WEIGHTS PER LINEAL INCH

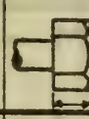
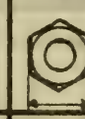
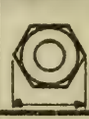
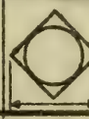
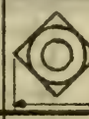
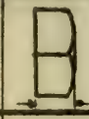
OF

STANDARD AND EXTRA HEAVY FITTINGS

SIZE	WEIGHT OF BODY PER INCH			WEIGHT OF ONE FLANGE			SIZE
	LIGHT	STANDARD	EXTRA HEAVY	LIGHT	STANDARD	EXTRA HEAVY	
1		.65	.66		1.88	3.35	1
1¼		.65	.77		2.59	4.39	1¼
1½		.74	.87		3.80	6.00	1½
2		.94	1.10		5.30	8.30	2
2½		1.21	1.52		7.10	11.80	2½
3		1.45	1.76		8.10	13.40	3
3½		1.61	2.01		12.61	18.80	3½
4		1.88	2.54		14.00	22.00	4
4½		2.20	2.52		14.85	25.10	4½
5		2.41	3.11		16.70	30.70	5
6		3.01	4.45		19.10	37.10	6
7		3.60	5.83		25.00	49.00	7
8	3.74	4.74	6.30	30.62	39.35	64.60	8
9	4.19	5.84	7.60	37.79	49.50	68.10	9
10	5.01	7.08	9.00	42.80	59.10	72.30	10
12	6.01	8.45	11.43	65.35	82.50	110.07	12
14	8.38	11.84	14.91	79.90	98.00	130.50	14
15	8.80	12.60	16.13	85.42	76.80	123.00	15
16	9.14	13.90	18.15	94.52	84.70	194.20	16
18	10.14	17.80	23.80	101.41	87.50	221.50	18
20	12.01	19.81	27.38	127.56	111.10	230.70	20
22	13.41	24.80	33.00	144.00	138.50	312.00	22
24	14.14	27.20	36.65	174.70	163.40	371.70	24
26	15.16	31.80	43.15	202.91	123.40	438.00	26
28	16.01	33.01	46.04	211.70	185.70	490.44	28
30	17.79	36.80	54.95	267.73	174.30	571.40	30
32	18.01	44.20	62.34	332.00	284.70	684.80	32
34	19.80	46.60	70.30	388.20	301.90	698.60	34
36	22.60	51.20	78.60	388.10	376.00	772.40	36
38	24.40	59.00	85.10	448.00	383.50	779.00	38
40	26.00	64.20	94.20	490.60	413.00	809.60	40
42	27.70	69.90	103.80	538.70	459.80	923.00	42
44	29.77	75.70	111.80	574.20	487.60	986.20	44
46	30.20	81.70	121.70	614.00	611.00	1073.00	46
48	34.70	87.00	132.60	694.00	684.70	1208.00	48
50	36.30	94.40		774.30	647.00	852	50
52	38.80	101.80		845.00	702.30	64	52
54	40.10	109.80		930.00	768.00	68	54
56	41.00	118.00		1088.00	829.30	78	56
58	42.80	125.00		1027.00	852.30	95	58

PITTSBURGH PIPING & EQUIPMENT CO.

DIMENSIONS OF BOLTS AND NUTS

DIAMETER BOLT	THREADS PER INCH	HEXAGON HEAD			HEXAGON NUT			SQUARE HEAD			SQUARE NUT			TOTAL LOAD AT ROOT OF THREAD AT 10,000* PR. SQ. IN.
														
1/4	20	3/8	29/64	3/16	1/2	37/64	1/4	3/8	17/32	3/16	1/2	45/64	1/4	260
5/16	18	15/32	35/64	15/64	19/32	11/16	5/16	15/32	21/32	15/64	19/32	27/32	5/16	450
3/8	16	9/16	41/64	9/32	11/16	51/64	3/8	9/16	51/64	9/32	11/16	63/64	3/8	670
7/16	14	21/32	3/4	21/64	25/32	29/32	7/16	21/32	59/64	21/64	25/32	1 7/64	7/16	920
1/2	13	3/4	7/8	3/8	7/8	1	1/2	3/4	1 1/16	3/8	7/8	1 15/64	1/2	1250
9/16	12	27/32	63/64	27/64	31/32	1 1/8	9/16	27/32	1 3/16	27/64	31/32	1 3/8	9/16	1610
5/8	11	15/16	1 3/32	15/32	1 1/16	1 7/32	5/8	15/16	1 21/64	15/32	1 1/16	1 1/2	5/8	2010
3/4	10	1 1/8	1 19/64	9/16	1 1/4	1 7/16	3/4	1 1/8	1 29/32	9/16	1 1/4	1 49/64	3/4	3010
7/8	9	1 5/16	1 33/64	21/32	1 7/16	1 21/32	7/8	1 5/16	1 55/64	21/32	1 7/16	2 1/32	7/8	4190
1	8	1 1/2	1 47/64	3/4	1 5/8	1 7/8	1	1 1/2	2 1/8	3/4	1 5/8	2 19/64	1	5500
1 1/8	7	1 11/16	1 61/64	27/32	1 13/16	2 3/32	1 1/8	1 11/16	2 25/64	27/32	1 13/16	2 9/16	1 1/8	6930
1 1/4	7	1 7/8	2 11/64	15/16	2	2 5/16	1 1/4	1 7/8	2 21/32	15/16	2	2 53/64	1 1/4	8900
1 3/8	6	2 1/16	2 25/64	1 1/32	2 3/16	2 17/32	1 3/8	2 1/16	2 59/64	1 1/32	2 3/16	3 3/32	1 3/8	10560
1 1/2	6	2 1/4	2 39/64	1 1/8	2 3/8	2 3/4	1 1/2	2 1/4	3 3/16	1 1/8	2 3/8	3 23/64	1 1/2	12940
1 5/8	5 1/2	2 7/16	2 13/16	1 7/32	2 9/16	2 31/32	1 5/8	2 7/16	3 29/64	1 7/32	2 9/16	3 5/8	1 5/8	15150
1 3/4	5	2 5/8	3 1/32	1 5/16	2 3/4	3 3/16	1 3/4	2 5/8	3 23/32	1 5/16	2 3/4	3 57/64	1 3/4	17460
1 7/8	5	2 13/16	3 1/4	1 13/32	2 15/16	3 13/32	1 7/8	2 13/16	3 63/64	1 13/32	2 15/16	4 5/32	1 7/8	20510
2	4 1/2	3	3 15/32	1 1/2	3 1/8	3 5/8	2	3	4 1/4	1 1/2	3 1/8	4 27/64	2	23010
2 1/8	4 1/2	3 3/16	3 11/16	1 19/32	3 5/16	3 53/64	2 1/8	3 3/16	4 1/2	1 19/32	3 5/16	4 11/16	2 1/8	26460
2 1/4	4 1/2	3 3/8	3 29/32	1 11/16	3 1/2	4 3/64	2 1/4	3 3/8	4 25/32	1 11/16	3 1/2	4 61/64	2 1/4	30210

PITTSBURGH PIPING & EQUIPMENT CO.

DIMENSIONS OF BOLTS AND NUTS

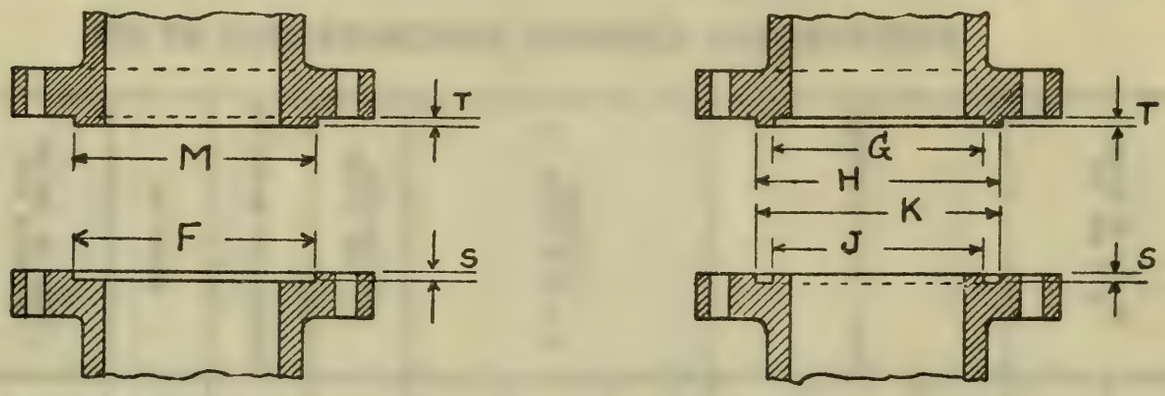
DIAMETER BOLT	THREADS PER INCH	HEXAGON HEAD			HEXAGON NUT			SQUARE HEAD			SQUARE NUT			TOTAL LOAD AT ROOT OF THREAD lbs. @ 10,000 lbs. per sq. in.
1/4	20	3/8	11/64	1/4	7/16	1/4	1/4	3/8	1/4	1/4	7/16	1/4	1/4	760
5/16	18	15/32	7/32	5/16	1/2	5/16	5/16	15/32	5/16	5/16	1/2	5/16	5/16	450
3/8	16	9/16	1/4	3/8	9/16	3/8	3/8	9/16	3/8	3/8	9/16	3/8	3/8	670
7/16	14	21/32	9/32	7/16	5/8	7/16	7/16	5/8	7/16	7/16	5/8	7/16	7/16	920
1/2	13	3/4	5/16	1/2	3/4	1/2	1/2	3/4	1/2	1/2	3/4	1/2	1/2	1250
5/8	12	15/16	13/32	5/8	15/16	5/8	5/8	15/16	5/8	5/8	15/16	5/8	5/8	1810
3/4	11	1 1/8	15/32	3/4	1 1/16	3/4	3/4	1 1/16	3/4	3/4	1 1/16	3/4	3/4	2010
7/8	10	1 5/16	17/32	7/8	1 1/4	7/8	7/8	1 1/4	7/8	7/8	1 1/4	7/8	7/8	3010
1	9	1 1/2	5/8	1	1 7/16	1	1	1 7/16	1	1	1 7/16	1	1	4190
1	8	1 11/16	11/16	1	1 5/8	1	1	1 5/8	1	1	1 5/8	1	1	5500
1 1/8	7	1 7/8	3/4	1 1/8	1 13/16	1 1/8	1 1/8	1 13/16	1 1/8	1 1/8	1 13/16	1 1/8	1 1/8	6930
1 1/4	7	2 1/16	13/16	1 1/4	2	1 1/4	1 1/4	2	1 1/4	1 1/4	2	1 1/4	1 1/4	8400
1 3/8	6	2 1/4	7/8	1 3/8	2 3/16	1 3/8	1 3/8	2 3/16	1 3/8	1 3/8	2 3/16	1 3/8	1 3/8	10560
1 1/2	6	2 7/16	1	1 1/2	2 3/8	1 1/2	1 1/2	2 3/8	1 1/2	1 1/2	2 3/8	1 1/2	1 1/2	12940
1 5/8	5 1/2	2 5/8	1 1/16	1 5/8	2 9/16	1 5/8	1 5/8	2 9/16	1 5/8	1 5/8	2 9/16	1 5/8	1 5/8	15150
1 3/4	5	2 13/16	1 1/8	1 3/4	2 3/4	1 3/4	1 3/4	2 3/4	1 3/4	1 3/4	2 3/4	1 3/4	1 3/4	17460
1 7/8	5	3	1 3/16	1 7/8	2 15/16	1 7/8	1 7/8	2 15/16	1 7/8	1 7/8	2 15/16	1 7/8	1 7/8	20510
2	4 1/2	3 3/16	1 1/4	2	3 1/8	2	2	3 1/8	2	2	3 1/8	2	2	23010
2 1/8	4 1/2	3 7/16	1 5/16	2 1/8	3 5/16	2 1/8	2 1/8	3 5/16	2 1/8	2 1/8	3 5/16	2 1/8	2 1/8	26460
2 1/4	4 1/2	3 5/8	1 7/16	2 1/4	3 1/2	2 1/4	2 1/4	3 1/2	2 1/4	2 1/4	3 1/2	2 1/4	2 1/4	30210

PITTSBURGH PIPING & EQUIPMENT CO.

GENERAL DIMENSIONS

MALE AND FEMALE, TONGUE AND GROOVED JOINTS

250 POUNDS PRESSURE



SIZE	M	F	G	H	K	J	T	S
1	2 5/16	2 3/8	1 3/4	2 1/2	2 9/16	1 11/16	3/16	1/8
1 1/4	2 3/4	2 13/16	2 1/8	3	3 1/16	2 1/16	3/16	1/8
1 1/2	3 1/8	3 3/16	2 3/4	3 5/8	3 11/16	2 11/16	3/16	1/8
2	3 5/8	3 11/16	3 1/8	4 1/8	4 3/16	3 1/16	3/16	1/8
2 1/2	4 1/8	4 3/16	3 5/8	4 5/8	4 11/16	3 9/16	3/16	1/8
3	5	5 1/16	4 1/4	5 1/4	5 5/16	4 3/16	3/16	1/8
3 1/2	5 1/2	5 9/16	4 3/4	5 3/4	5 13/16	4 11/16	3/16	1/8
4	6	6 1/16	5 1/4	6 1/4	6 5/16	5 3/16	3/16	1/8
4 1/2	6 1/2	6 9/16	5 3/4	6 3/4	6 13/16	5 11/16	3/16	1/8
5	7 1/4	7 5/16	6 1/4	7 1/4	7 5/16	6 3/16	3/16	1/8
6	8 3/8	8 7/16	7 1/2	8 1/2	8 9/16	7 7/16	3/16	1/8
7	9 3/8	9 7/16	8 5/8	9 5/8	9 11/16	8 9/16	1/4	3/16
8	10 5/8	10 11/16	9 5/8	10 7/8	10 15/16	9 9/16	1/4	3/16
9	11 5/8	11 11/16	10 5/8	11 7/8	11 15/16	10 9/16	1/4	3/16
10	12 3/4	12 13/16	11 5/8	13 1/8	13 3/16	11 9/16	1/4	3/16
12	15 1/4	15 5/16	13 5/8	15 1/8	15 3/16	13 9/16	1/4	3/16
14	16 1/2	16 9/16	15 7/8	17 3/8	17 7/16	15 13/16	1/4	3/16
15	17 1/2	17 9/16	17 1/8	18 5/8	18 11/16	17 1/16	1/4	3/16
16	18 1/2	18 9/16	18 3/8	20 1/8	20 3/16	18 5/16	1/4	3/16
18	21	21 1/16	20 3/8	22 3/8	22 7/16	20 5/16	1/4	3/16
20	23	23 1/16	22 5/16	24 5/16	24 3/8	22 1/4	1/4	3/16
22	25 1/2	25 9/16	24 1/2	26 1/2	26 9/16	24 7/16	1/4	3/16
24	27 1/2	27 9/16	26 1/2	28 1/2	28 9/16	26 7/16	1/4	3/16

PITTSBURGH PIPING & EQUIPMENT CO.

GENERAL DIMENSIONS

MALE AND FEMALE, TONGUE AND GROOVED JOINTS

250 POUNDS PRESSURE

Size	M	F	G	H	K	J	T	S
1	2 5/8	2 3/8	1 3/4	2 1/2	2 7/8	1 7/8	7/16	3/8
1 1/4	2 7/8	2 5/8	2 1/8	3	3 1/4	2 1/16	3/16	3/8
1 1/2	3 1/8	3 1/16	2 1/2	3 5/8	3 5/8	2 1/16	3/16	3/8
2	3 5/8	3 1/16	3 1/8	4 1/8	4 1/8	3 1/16	1/4	3/8
2 1/2	4 1/8	4 1/16	3 5/8	4 5/8	4 5/8	3 1/16	1/4	1/2
3	5	4 15/16	4 1/4	5 1/4	5 1/16	4 1/16	1/4	1/2
3 1/2	5 1/2	5 7/16	4 7/8	5 7/8	5 11/16	4 1/16	1/4	1/2
4	6	5 15/16	5 1/2	6 1/2	6 5/16	5 1/16	1/4	1/2
4 1/2	6 1/2	6 7/16	5 7/8	6 7/8	6 11/16	5 1/16	1/4	1/2
5	7 1/8	7 1/16	6 1/4	7 1/4	7 1/16	6 1/16	1/4	1/2
6	8 1/8	8 1/16	7 1/2	8 1/2	8 5/16	7 1/16	1/4	1/2
7	9 1/8	9 1/16	8 1/2	9 1/2	9 1/16	8 1/16	1/4	1/2
8	10 1/8	10 1/16	9 3/8	10 3/8	10 1/16	9 1/16	1/4	1/2
9	11 1/8	11 1/16	10 3/8	11 3/8	11 1/16	10 1/16	1/4	1/2
10	12 1/8	12 1/16	11 3/8	12 3/8	12 1/16	11 1/16	1/4	1/2
12	15 1/8	15 1/16	13 3/8	15 3/8	15 1/16	13 1/16	1/4	1/2
14	16 1/8	16 1/16	15 3/8	17 3/8	17 1/16	15 1/16	1/4	1/2
15	17 1/8	17 1/16	17 3/8	18 3/8	18 1/16	17 1/16	1/4	1/2
16	18 1/8	18 1/16	19 3/8	20 3/8	20 1/16	18 1/16	1/4	1/2
18	21 1/8	21 1/16	20 3/8	22 3/8	22 1/16	20 1/16	1/4	1/2
20	23 1/8	23 1/16	22 3/8	24 3/8	24 1/16	22 1/16	1/4	1/2
22	25 1/8	25 1/16	24 3/8	26 3/8	26 1/16	24 1/16	1/4	1/2
24	27 1/8	27 1/16	26 3/8	28 3/8	28 1/16	26 1/16	1/4	1/2

PITTSBURGH PIPING & EQUIPMENT CO.

BOLTS FOR STANDARD FLANGED CONNECTIONS

PIPE SIZE	NUMBER AND SIZE OF BOLTS	REGULAR	STUDS FOR REGULAR	C. I. PD. FLGE. TO FITTING	C. I. V. S. FLGE TO FITTING			2-C. I. V. S. FLANGES			C. I. PD. TO C. I. V. S. FLGE.	
					F. W. I. D. Pipe O. D. Pipe 1/4" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 3/8" Thk.	F. W. I. D. Pipe O. D. Pipe 1/4" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 3/8" Thk.	F. W. I. D. Pipe	X Strg. I. D. Pipe
1	4- 7/16"	1 1/2	2									
1 1/4	4- 7/16"	1 1/2	2									
1 1/2	4- 1/2"	1 3/4	2 1/4									
2	4- 5/8"	2	2 3/4									
2 1/2	4- 5/8"	2 1/4	2 3/4									
3	4- 5/8"	2 1/4	3									
3 1/2	4- 5/8"	2 1/2	3									
4	8- 5/8"	2 3/4	3 1/4		2 3/4	3		3	3 1/4			
4 1/2	8- 3/4"	2 3/4	3 1/2		3	3		3 1/4	3 1/2			
5	8- 3/4"	2 3/4	3 1/2	5 1/4	3	3		3 1/4	3 1/2		5 1/2	5 3/4
6	8- 3/4"	3	3 3/4	5 1/2	3 1/4	3 1/4		3 1/4	3 3/4		5 3/4	5 3/4
7	8- 3/4"	3	3 3/4	5 1/2	3 1/4	3 1/2		3 1/2	4		5 3/4	6
8	8- 3/4"	3 1/4	4	5 3/4	3 1/2	3 1/2		3 1/2	4		6	6
9	12- 3/4"	3 1/4	4	5 3/4	3 1/2	3 1/2		3 3/4	4		6	6
10	12- 7/8"	3 1/2	4 1/4	5 3/4	3 3/4	3 3/4		4	4 1/4		6	6 1/4
12	12- 7/8"	3 1/2	4 1/2	6	3 3/4	4		4 1/4	4 1/2		6 1/4	6 1/2
14	12-1"	4	5		4	4 1/4	4 1/4	4 1/4	4 1/2	4 1/2		
15	16-1"	4	5		4	4 1/4	4 1/4	4 1/4	4 1/2	4 1/2		
16	16-1"	4	5		4 1/4	4 1/4	4 1/4	4 1/2	4 1/2	4 3/4		
18	16-1 1/8"	4 1/2	5 1/2	AS REGULAR	4 1/2	4 3/4	4 3/4	4 3/4	5	5	VAN-STONE	TO FITTING
20	20-1 1/8"	4 3/4	5 3/4		4 3/4	5	5	5	5 1/4	5 1/4		
22	20-1 1/4"	5	6 1/4		5 1/4	5 1/4	5 1/4	5 1/2	5 1/2	5 3/4		
24	20-1 1/4"	5 1/4	6 1/2		5 1/4	5 1/2	5 1/2	5 1/2	5 3/4	5 3/4		
26	24-1 1/4"	5 1/2	6 3/4	SAME	5 1/2	5 3/4	5 3/4	5 3/4	6	6	SAME AS	FLANGE
28	28-1 1/4"	5 1/2	6 3/4		5 3/4	5 3/4	5 3/4	6	6	6 1/4		
30	28-1 3/8"	5 3/4	7 1/4		6	6	6	6 1/4	6 1/4	6 1/2		

PITTSBURGH PIPING & EQUIPMENT CO.

BOLTS FOR STANDARD FLANGED CONNECTIONS

PIPE SIZE	NUMBER AND SIZE OF BOLTS	REGULAR	STUDS FOR REGULAR	C. I. FLGE. TO PO. FITTING	C. I. FLGE. TO C. I. FLGE.			C. I. FLGE. TO C. I. FLGE.			C. I. FLGE. TO STEEL FLGE.	
					O.D. Pipe Thk.	C.I. Flge. Thk.	O.D. Pipe Thk.	O.D. Pipe Thk.	C.I. Flge. Thk.	Pipe O.D. Thk.	O.D. Pipe Thk.	C.I. Flge. Thk.
1	4-½"	1¼	1¾									
1¼	4-½"	1¼	1¾									
1½	4-½"	1¼	1¾									
2	4-⅝"	1½	2									
2½	4-⅝"	1½	2									
3	4-⅝"	1½	2									
3½	4-⅝"	1½	2									
4	8-⅝"	1¾	2¼									
5	8-¾"	2	2½									
6	8-¾"	2	2½									
7	8-¾"	2	2½									
8	8-¾"	2¼	2¾									
9	12-¾"	2¼	2¾									
10	12-¾"	2½	3									
12	12-¾"	2½	3									
14	12-1"	3	3½									
16	16-1"	3	3½									
18	16-1"	3½	4									
20	20-1"	3½	4									
22	20-1¼"	4	4½									
24	20-1¼"	4	4½									
26	24-1¼"	4½	5									
28	28-1¼"	4½	5									
30	28-1¼"	4½	5									

PITTSBURGH PIPING & EQUIPMENT CO.

BOLTS FOR E. H. FLANGED CONNECTIONS

PIPE SIZE	NUMBER AND SIZE OF BOLTS	REGULAR	STL. SCRD. OR PD. FLGE. TO FITTING	2-STL. SCRD. OR PD. FLGES.	C. I. V. S. FLGE. TO FITTING			2-C. I. V. S. FLANGES			R. S. V. S. FLGE. TO FITTING			2-R. S. V. S. FLANGES			R. S. PD. TO C. I. V. S. FLGE.			R. S. PD. TO R. S. V. S. FLGE.			STUDS FOR REGULAR
					F. W. I. D. Pipe O. D. Pipe 3/8" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 1/2" Thk.	F. W. I. D. Pipe O. D. Pipe 3/8" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 1/2" Thk.	F. W. I. D. Pipe O. D. Pipe 3/8" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 1/2" Thk.	F. W. I. D. Pipe O. D. Pipe 3/8" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 1/2" Thk.	F. W. I. D. Pipe O. D. Pipe 3/8" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 1/2" Thk.	F. W. I. D. Pipe O. D. Pipe 3/8" Thk.	X Strg. I. D. Pipe O. D. Pipe 1/4" Thk.	O. D. Pipe 1/2" Thk.	
1	4- 1/2"	2	2	1 3/4																			2 1/2
1 1/4	4- 1/2"	2 1/4	2	2																			2 3/4
1 1/2	4- 5/8"	2 1/2	2 1/2	2 1/4																			3
2	4- 5/8"	2 1/2	2 1/2	2 1/2																			3 1/4
2 1/2	4- 3/4"	3	3	3																			3 3/4
3	8- 3/4"	3 1/4	3	3																			4
3 1/2	8- 3/4"	3 1/4	3 1/4	3 1/4																			4
4	8- 3/4"	3 1/2	3 1/4	3 1/4	3 1/2	3 3/4		3 3/4	4		3 1/2	3 1/2		3 1/2	3 3/4		3 1/2	3 1/2		3 1/4	3 1/2		4 1/4
4 1/2	8- 3/4"	3 1/2	3 1/2	3 1/2	3 3/4	3 3/4		4	4 1/4		3 3/4	3 3/4		3 3/4	4		3 3/4	3 3/4		3 1/2	3 3/4		4 1/4
5	8- 3/4"	3 3/4	3 1/2	3 1/2	4	4		4	4 1/4		3 3/4	3 3/4		3 3/4	4		3 3/4	3 3/4		3 1/2	3 3/4		4 1/2
6	12- 3/4"	3 3/4	3 1/2	3 1/2	4	4 1/4		4 1/4	4 1/2		3 3/4	4		4	4 1/4		3 3/4	4		3 3/4	3 3/4		4 1/2
7	12- 7/8"	4	3 3/4	3 3/4	4 1/4	4 1/2		4 1/2	5		4	4 1/4		4 1/4	4 1/2		4	4 1/4		4	4		5
8	12- 7/8"	4 1/4	4	3 3/4	4 1/2	4 3/4		4 3/4	5 1/4		4 1/4	4 1/2		4 1/4	4 3/4		4 1/4	4 1/2		4	4 1/4		5 1/4
9	12-1"	4 3/4	4 1/4	4	5	5		5 1/4	5 1/2		4 3/4	4 3/4		4 3/4	5		4 3/4	4 3/4		4 1/4	4 1/2		5 3/4
10	16-1"	5	4 1/2	4 1/4	5 1/4	5 1/4		5 1/2	5 3/4		4 3/4	5		4 3/4	5		4 3/4	5		4 1/2	4 1/2		6
12	16-1 1/8"	5 1/4	5	4 1/2	5 1/2	5 3/4		6	6 1/4		5 1/4	5 1/4		5 1/4	5 1/2		5 1/4	5 1/4		4 3/4	5		6 1/2
14	20-1 1/8"	5 1/2	5 1/4	4 3/4	5 3/4	6	6	6 1/4	6 1/4	6 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 3/4	5 1/2	5 1/2	5 3/4	5	5 1/4	5 1/4	6 3/4
15	20-1 1/4"	5 3/4	5 1/2	5	6	6 1/4	6 1/4	6 1/2	6 1/2	6 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	6	5 3/4	5 3/4	5 3/4	5 1/4	5 1/2	5 1/2	7
16	20-1 1/4"	6	5 1/2	5 1/4	6 1/4	6 1/4	6 1/4	6 1/2	6 3/4	6 3/4	5 3/4	6	6	5 3/4	6	6	5 3/4	6	6	5 1/2	5 1/2	5 1/2	7 1/4
18	24-1 1/4"	6 1/4	5 3/4	5 1/2	6 1/2	6 1/2	6 1/2	6 3/4	7	7	6	6 1/4	6 1/4	6	6 1/4	6 1/4	6	6 1/4	6 1/4	5 3/4	5 3/4	5 3/4	7 1/2
20	24-1 3/8"	6 1/2	6 1/4	5 3/4	6 3/4	7	7	7 1/4	7 1/4	7 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 3/4	6 1/2	6 1/2	6 1/2	6	6 1/4	6 1/4	8
22	24-1 1/2"	7	6 1/2	6 1/4	7 1/4	7 1/4	7 1/4	7 1/2	7 3/4	7 3/4	6 3/4	7	7	6 3/4	7	7	6 3/4	7	7	6 1/2	6 1/2	6 1/2	8 1/2
24	24-1 5/8"	7 1/4	7	6 1/2	7 1/2	7 3/4	7 3/4	8	8	8 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/2	7 1/4	7 1/4	7 1/4	6 3/4	7	7	9
26	28-1 5/8"	7 1/2	7	6 1/2	7 3/4	7 3/4	7 3/4	8	8 1/4	8 1/4	7 1/4	7 1/4	7 1/2	7 1/4	7 1/4	7 1/2	7 1/4	7 1/4	7 1/2	6 3/4	7	7	9 1/4
28	28-1 5/8"	7 3/4	7 1/4	6 3/4	8	8	8	8 1/4	8 1/2	8 1/2	7 1/2	7 1/2	7 1/2	7 1/4	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7	7	7	9 1/4
30	28-1 3/4"	8	7 1/4	6 3/4	8 1/4	8 1/4	8 1/4	8 1/2	8 3/4	8 3/4	7 3/4	7 3/4	7 3/4	7 1/2	7 1/2	7 3/4	7 3/4	7 3/4	7 3/4	7	7 1/4	7 1/4	9 3/4

PITTSBURGH PIPING & EQUIPMENT CO.

BOLTS FOR E. H. FLANGED CONNECTIONS

PIPE SIZE	NUMBER AND SIZE OF BOLTS	STL. SCHD. 40 PD. FLGE. OR PD. SCHD. 40 FITTING	MSCHD. 40	C.I. V. & F. FLANGE TO C.I. V. & F. FLANGE OR FITTING			2-C. I. V. & F. FLANGES			R. & V. & F. FLGE. TO C.I. FITTING			R. & V. & F. FLANGE TO C.I. FLANGE			R. & V. & F. FLANGE TO STL. FLANGE			STUDS FOR RAISED
				Machine Bolts, Nuts	Stud, Nuts	Stud, Nuts	Machine Bolts, Nuts	Stud, Nuts	Stud, Nuts	Machine Bolts, Nuts	Stud, Nuts	Stud, Nuts	Machine Bolts, Nuts	Stud, Nuts	Stud, Nuts	Machine Bolts, Nuts	Stud, Nuts	Stud, Nuts	
				O.D. Pipe	F.W.I. O.D. Pipe	Stud, I. D. Pipe	O.D. Pipe	Stud, O.D. Pipe X Stud, I. D. Pipe	F.W.I. O.D. Pipe X Stud, I. D. Pipe	O.D. Pipe	Stud, O.D. Pipe X Stud, I. D. Pipe	F.W.I. O.D. Pipe X Stud, I. D. Pipe	O.D. Pipe	Stud, O.D. Pipe X Stud, I. D. Pipe	F.W.I. O.D. Pipe X Stud, I. D. Pipe	O.D. Pipe	Stud, O.D. Pipe X Stud, I. D. Pipe	F.W.I. O.D. Pipe X Stud, I. D. Pipe	4 + 4 + 4
1	4- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
1¼	4- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
1½	4- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
2	4- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
2½	4- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
3	8- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
3½	8- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
4	8- ¾"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
4½	8- ⅞"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
5	8- ⅞"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
6	12- ⅞"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
7	12- ⅞"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
8	12- 1"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
9	12-1"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
10	16-1"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
12	16-1⅛"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
14	20-1⅛"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
15	20-1¼"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
16	20-1¼"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
18	24-1¼"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
20	24-1⅜"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
22	24-1½"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
24	24-1½"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
26	28-1½"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
28	28-1⅝"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
30	28-1⅝"	2	2	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾

STANDARD PIPE—BLACK AND GALVANIZED

ALL WEIGHTS AND DIMENSIONS ARE NOMINAL

SIZE	DIAMETERS		Thickness	CIRCUM-FERENCE		TRANSVERSE AREAS		WEIGHT PER FOOT		Threads per Inch	COUPLINGS		
	External	Internal		External	Internal	External Sq. Inches	Internal Sq. Inches	Plain Ends	Threads and Couplings		Diameter	Length	Weight
⅛	.405	.269	.068	1.27	.85	.13	.06	.244	.245	27	.562	⅞	.029
¼	.540	.364	.088	1.70	1.14	.23	.10	.424	.425	18	.685	1	.043
⅜	.675	.493	.091	2.12	1.55	.36	.19	.567	.568	18	.848	1⅛	.070
½	.840	.622	.109	2.63	1.95	.55	.30	.850	.852	14	1.024	1⅜	.116
¾	1.050	.824	.113	3.30	2.59	.87	.53	1.130	1.134	14	1.281	1⅝	.209
1	1.315	1.049	.133	4.13	3.29	1.36	.86	1.678	1.684	11½	1.576	1⅞	.343
1¼	1.660	1.380	.140	5.22	4.34	2.16	1.50	2.272	2.281	11½	1.950	2⅛	.535
1½	1.900	1.610	.145	5.97	5.06	2.84	2.04	2.717	2.731	11½	2.218	2⅜	.743
2	2.375	2.067	.154	7.46	6.49	4.43	3.36	3.652	3.678	11½	2.760	2⅝	1.208
2½	2.875	2.469	.203	9.03	7.75	6.49	4.78	5.793	5.819	8	3.276	2⅞	1.720
3	3.500	3.068	.216	11.00	9.63	9.62	7.39	7.575	7.616	8	3.948	3⅛	2.498
3½	4.000	3.548	.226	12.57	11.15	12.57	9.89	9.109	9.202	8	4.591	3⅝	4.241
4	4.500	4.026	.237	14.14	12.65	15.90	12.73	10.790	10.889	8	5.091	3⅝	4.741
4½	5.000	4.506	.247	15.71	14.16	19.64	15.96	12.538	12.642	8	5.591	3⅝	5.241
5	5.563	5.047	.258	17.48	15.85	24.31	19.99	14.617	14.810	8	6.296	4⅛	8.091
6	6.625	6.065	.280	20.81	19.05	34.47	28.89	18.974	19.185	8	7.358	4⅛	9.554
7	7.625	7.023	.301	23.96	22.06	45.66	38.74	23.544	23.769	8	8.358	4⅛	10.932
8	8.625	8.071	.277	27.10	25.35	58.43	51.15	24.696	25.000	8	9.358	4⅝	13.905
8	8.625	7.981	.322	27.10	25.07	58.43	50.02	28.554	28.809	8	9.358	4⅝	13.905
9	9.625	8.941	.342	30.24	28.08	72.76	62.72	33.907	34.188	8	10.358	5⅛	17.236
10	10.750	10.192	.279	33.77	32.01	90.76	81.55	31.201	32.000	8	11.721	6⅛	29.877
10	10.750	10.136	.307	33.77	31.86	90.76	80.75	34.240	35.000	8	11.721	6⅛	29.877
10	10.750	10.020	.365	33.77	31.47	90.76	78.82	40.483	41.132	8	11.721	6⅛	29.877
11	11.750	11.000	.375	36.91	34.56	108.40	95.03	45.557	46.247	8	12.721	6⅛	32.550
12	12.750	12.090	.330	40.06	37.98	127.70	114.80	43.773	45.000	8	13.958	6⅛	43.098
12	12.750	12.000	.375	40.06	37.70	127.70	113.10	49.562	50.706	8	13.958	6⅛	43.098
13	14.000	13.250	.375	43.98	41.63	153.94	137.89	54.568	55.824	8	15.208	6⅛	47.152
14	15.000	14.250	.375	47.12	44.77	176.72	159.49	58.573	60.375	8	16.446	6⅛	59.493
15	16.000	15.250	.375	50 27	47.91	201.06	182.66	62 579	64.500	8	17.446	6⅛	63.294

The permissible variation in weight is 5 per cent. above and 5 per cent. below.

Furnished with threads and couplings and in random lengths unless otherwise ordered.

Taper of threads is ¾ inch diameter per foot length for all sizes.

The weight per foot of pipe with threads and couplings is based on a length of 20 feet, including the coupling, but shipping lengths of small sizes will usually average less than 20 feet.

All weights given in pounds. All dimensions given in inches.

STANDARD PIPE—BLACK AND GALVANIZED

ALL WEIGHTS AND DIMENSIONS ARE NOMINAL

SIZE	DIAMETERS		Thickness	CIRCUMFERENCE		TRANSVERSE AREAS		WEIGHT PER FOOT		Threads per inch	COUPLINGS		
	External	Internal		External	Internal	External Inches	Internal Inches	Plain Ends	Threads and Couplings		Diameter	Length	Weight
⅛	.405	.269	.068	1.272	.84	.129	.057	.244	.25	27	⅜	½	.029
¼	.540	.364	.088	1.696	1.14	.229	.104	.424	.42	18	½	½	.043
⅜	.675	.493	.091	2.121	1.55	.358	.191	.567	.57	18	⅝	½	.077
½	.840	.622	.109	2.639	1.95	.554	.304	.850	.80	14	¾	½	.111
¾	1.050	.824	.113	3.299	2.59	.866	.533	1.130	1.09	14	⅞	1⅛	.209
1	1.315	1.049	.133	4.131	3.29	1.358	.864	1.678	1.61	11½	1	1⅛	.343
1¼	1.660	1.380	.140	5.215	4.34	2.164	1.496	2.272	2.21	11½	1⅛	1⅛	.503
1½	1.900	1.610	.145	5.969	5.06	2.835	2.036	2.717	2.64	11½	1⅜	1⅛	.743
2	2.375	2.067	.154	7.461	6.49	4.430	3.358	3.652	3.678	11½	2⅜	1	.1.060
2½	2.875	2.469	.203	9.032	7.75	6.492	4.784	5.793	5.819	8	2⅞	1	1.530
3	3.500	3.068	.216	11.000	9.63	9.621	7.393	7.575	7.616	8	3⅜	1	2.090
3½	4.000	3.548	.226	12.57	11.15	12.566	9.887	9.109	9.202	8	3⅞	1	2.680
4	4.500	4.026	.237	14.14	12.65	15.904	12.730	10.790	10.970	8	3⅞	1	3.200
4½	5.000	4.506	.247	15.71	14.16	19.635	15.961	12.538	12.742	8	3⅞	1	3.720
5	5.563	5.047	.258	17.48	15.85	24.306	20.006	14.617	14.810	8	4⅜	1	4.300
6	6.625	6.065	.280	20.01	19.05	34.472	28.891	18.974	19.180	8	4½	1	5.580
7	7.625	7.023	.301	23.96	22.06	45.664	38.738	23.544	23.769	8	4⅞	1	8.358
8	8.625	8.071	.277	27.10	25.35	58.426	51.161	24.656	25.000	8	4⅞	1	9.358
9	9.625	9.081	.322	27.10	25.07	58.426	51.161	32.964	33.429	8	4⅞	1	9.358
10	10.750	10.192	.279	33.77	32.01	90.763	81.530	40.483	41.132	8	5⅛	1	11.721
10	10.750	10.136	.307	33.77	31.86	90.763	80.715	34.240	35.000	8	5⅛	1	11.721
10	10.750	10.020	.365	33.77	31.47	90.763	78.854	40.483	41.132	8	5⅛	1	11.721
11	11.750	11.000	.375	36.91	34.56	108.434	95.033	46.552	46.947	8	5⅛	1	12.721
12	12.750	12.000	.375	40.06	37.70	127.677	113.097	49.562	50.706	8	6⅛	1½	13.958
12	12.750	12.090	.375	40.06	37.70	127.677	113.10	49.562	50.706	8	6⅛	1½	13.958
13	13.000	12.250	.375	40.84	38.48	132.732	117.859	50.562	51.706	8	6⅛	1½	14.208
14	14.000	13.250	.375	43.98	41.63	153.938	137.887	54.568	55.824	8	6⅛	1½	15.208
15	15.000	14.250	.375	47.12	44.77	176.715	159.485	58.575	59.942	8	6⅛	1½	16.208
16	16.000	15.250	.375	50.27	47.91	201.062	182.655	62.579	64.500	8	6½	1½	17.446

The permissible variation in weight is 5 per cent. above and 5 per cent. below.

Furnished with threads and couplings and in random lengths unless otherwise ordered.

Taper of threads is ¾ inch diameter per foot length for all sizes.

The weight per foot of pipe with threads and coupling is based on a length of 20 feet, including the coupling, but shipping lengths of small sizes will usually average less than 20 feet.

All weights given in pounds. All dimensions given in inches.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA STRONG PIPE—BLACK AND GALVANIZED

ALL WEIGHTS AND DIMENSIONS ARE NOMINAL

SIZE	DIAMETERS		Thickness	CIRCUMFERENCE		TRANSVERSE AREAS		Weight per Foot Plain Ends
	External	Internal		External	Internal	External Sq. Inches	Internal Sq. Inches	
⅛	.405	.215	.095	1.27	.64	.13	.03	.314
¼	.540	.302	.119	1.70	.92	.23	.07	.535
⅜	.675	.423	.126	2.12	1.32	.36	.14	.738
½	.840	.546	.147	2.64	1.70	.55	.23	1.087
¾	1.050	.742	.154	3.30	2.31	.87	.43	1.473
1	1.315	.957	.179	4.13	2.99	1.36	.71	2.171
1¼	1.660	1.278	.191	5.22	4.00	2.16	1.27	2.996
1½	1.900	1.500	.200	5.97	4.69	2.84	1.75	3.631
2	2.375	1.939	.218	7.46	6.07	4.43	2.94	5.022
2½	2.875	2.323	.276	9.03	7.27	6.49	4.21	7.661
3	3.500	2.900	.300	11.00	9.09	9.62	6.57	10.252
3½	4.000	3.364	.318	12.57	10.55	12.57	8.86	12.505
4	4.500	3.826	.337	14.14	12.00	15.90	11.45	14.983
4½	5.000	4.290	.355	15.71	13.45	19.64	14.39	17.611
5	5.563	4.813	.375	17.48	15.12	24.31	18.19	20.778
6	6.625	5.761	.432	20.81	18.07	34.47	25.98	28.573
7	7.625	6.625	.500	23.96	20.81	45.66	34.47	38.048
8	8.625	7.625	.500	27.10	23.96	58.43	45.66	43.388
9	9.625	8.625	.500	30.24	27.10	72.76	58.43	48.728
10	10.750	9.750	.500	33.77	30.63	90.76	74.66	54.735
11	11.750	10.750	.500	36.91	33.77	108.40	90.76	60.075
12	12.750	11.750	.500	40.06	36.91	127.70	108.40	65.415
13	14.000	13.000	.500	43.98	40.84	153.94	132.73	72.091
14	15.000	14.000	.500	47.12	43.98	176.72	153.94	77.431
15	16.000	15.000	.500	50.27	47.12	201.06	176.72	82.771

The permissible variation in weight is 5 per cent. above and 5 per cent. below.

DOUBLE EXTRA STRONG PIPE—BLACK AND GALVANIZED

ALL WEIGHTS AND DIMENSIONS ARE NOMINAL

SIZE	DIAMETERS		Thickness	CIRCUMFERENCE		TRANSVERSE AREAS		Weight per Foot Plain Ends
	External	Internal		External	Internal	External Sq. Inches	Internal Sq. Inches	
½	.840	.252	.294	2.64	.77	.55	.05	1.714
¾	1.050	.434	.308	3.30	1.33	.87	.14	2.440
1	1.315	.599	.358	4.13	1.84	1.36	.27	3.659
1¼	1.660	.896	.382	5.22	2.78	2.16	.62	5.214
1½	1.900	1.100	.400	5.97	3.42	2.84	.93	6.408
2	2.375	1.503	.436	7.46	4.68	4.43	1.74	9.029
2½	2.875	1.771	.552	9.03	5.51	6.49	2.42	13.695
3	3.500	2.300	.600	11.00	7.18	9.62	4.10	18.583
3½	4.000	2.728	.636	12.57	8.53	12.57	5.79	22.850
4	4.500	3.152	.674	14.14	9.85	15.90	7.72	27.541
4½	5.000	3.580	.710	15.71	11.20	19.64	9.98	32.530
5	5.563	4.063	.750	17.48	12.76	24.31	12.97	38.552
6	6.625	4.897	.864	20.81	15.32	34.47	18.67	53.160
7	7.625	5.875	.875	23.96	18.46	45.66	27.11	63.079
8	8.625	6.875	.875	27.10	21.60	58.43	37.12	72.424

The permissible variation in weight is 10 per cent. above and 10 per cent. below.
The following notes apply to both tables.
Furnished with plain ends and in random lengths unless otherwise ordered.
All weights given in pounds. All dimensions given in inches.

PITTSBURGH PIPING & EQUIPMENT CO.

EXTRA STRONG PIPE—BLACK AND GALVANIZED

ALL WEIGHTS AND DIMENSIONS ARE NOMINAL

SIZE	DIAMETERS		Thickness	CIRCUMFERENCE		TRANSVERSE AREAS		Weight per Foot Plain Ends
	External	Internal		External	Internal	External Sq. Inches	Internal Sq. Inches	
⅛	.405	.215	.095	1.27	.64	.13	.03	.314
¼	.540	.302	.119	1.70	.92	.23	.07	.535
⅜	.675	.423	.126	2.12	1.32	.36	.14	.738
½	.840	.546	.147	2.64	1.70	.55	.23	1.087
¾	1.050	.742	.154	3.30	2.31	.87	.43	1.473
1	1.315	.957	.179	4.13	2.99	1.36	.71	2.171
1¼	1.660	1.278	.191	5.22	4.00	2.16	1.27	2.996
1½	1.900	1.500	.200	5.97	4.69	2.84	1.75	3.631
2	2.375	1.939	.218	7.46	6.07	4.43	2.94	5.022
2½	2.875	2.323	.276	9.03	7.27	6.49	4.21	7.661
3	3.500	2.900	.300	11.00	9.08	9.62	6.57	10.252
3½	4.000	3.364	.318	12.57	10.55	12.57	8.89	12.505
4	4.500	3.826	.337	14.14	12.00	15.90	11.49	14.983
4½	5.000	4.290	.355	15.71	13.48	19.64	14.39	17.611
5	5.563	4.813	.375	17.48	15.12	24.31	18.19	20.778
6	6.625	5.761	.432	20.81	18.07	34.47	26.08	28.573
7	7.625	6.625	.500	23.98	20.81	45.66	34.47	38.048
8	8.625	7.625	.500	27.10	23.96	58.43	45.66	43.388
9	9.625	8.625	.500	30.24	27.10	72.76	58.43	48.728
10	10.750	9.750	.500	33.77	30.63	90.76	74.66	54.735
11	11.750	10.750	.500	36.91	33.77	108.40	90.76	60.075
12	12.750	11.750	.500	40.06	36.91	127.70	108.40	65.415
13	14.000	13.000	.500	43.98	40.84	153.94	132.73	72.091
14	15.000	14.000	.500	47.12	43.98	176.72	153.94	77.431
15	16.000	15.000	.500	50.27	47.12	201.06	176.72	82.771

The permissible variation in weight is 5 per cent. above and 5 per cent. below.

DOUBLE EXTRA STRONG PIPE—BLACK AND GALVANIZED

ALL WEIGHTS AND DIMENSIONS ARE NOMINAL

SIZE	DIAMETERS		Thickness	CIRCUMFERENCE		TRANSVERSE AREAS		Weight per Foot Plain Ends
	External	Internal		External	Internal	External Sq. Inches	Internal Sq. Inches	
¼	.840	.252	.294	2.64	.77	.55	.05	1.714
½	1.050	.434	.308	3.30	1.36	.87	.14	2.440
1	1.315	.599	.358	4.13	1.84	1.36	.27	3.659
1¼	1.660	.896	.382	5.22	2.76	2.16	.62	5.214
1½	1.900	1.100	.400	5.97	3.42	2.84	.93	6.408
2	2.375	1.503	.436	7.46	4.69	4.43	1.74	9.029
2½	2.875	1.771	.552	9.03	5.51	6.49	2.42	13.695
3	3.500	2.300	.600	11.00	7.18	9.62	4.10	18.583
3½	4.000	2.728	.636	12.57	8.53	12.57	5.75	22.850
4	4.500	3.152	.674	14.14	9.85	15.90	7.72	27.541
4½	5.000	3.580	.710	15.71	11.20	19.64	9.98	32.530
5	5.563	4.063	.750	17.48	12.76	24.31	12.97	38.552
6	6.625	4.897	.864	20.81	15.32	34.47	18.67	53.160
7	7.625	5.875	.875	23.96	18.46	45.66	27.11	63.079
8	8.625	6.875	.875	27.10	21.60	58.43	37.12	72.464

The permissible variation in weight is 10 per cent. above and 10 per cent. below.

The following notes apply to both tables.

Furnished with plain ends and in random lengths unless otherwise ordered.

All weights given in pounds. All dimensions given in inches.

PITTSBURGH PIPING & EQUIPMENT CO.

NOMINAL WEIGHT

IN POUNDS PER FOOT OF

STANDARD THICKNESSES OF O. D. STEEL PIPE

Size O. D.	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	7/8"	1	1 1/8"
14	36.713	45.682	54.568	63.371	72.091	80.726	89.279	97.748	106.134	122.654	138.842	154.695
15	39.383	49.020	58.573	68.044	77.431	86.734	95.954	105.091	114.144	132.000	149.522	166.710
16	42.053	52.357	62.579	72.716	82.771	92.742	102.629	112.433	122.154	141.345	160.202	178.725
17	44.723	55.695	66.584	77.389	88.111	98.749	109.304	119.776	130.164	150.690	170.882	190.740
18	47.393	59.032	70.589	82.061	93.451	104.757	115.979	127.118	138.174	160.035	181.562	202.756
20		65.708	78.599	91.407	104.131	116.772	129.330	141.804	154.194	178.725	202.923	226.786
21		69.045	82.604	96.079	109.471	122.780	136.005	149.146	162.204			
22		72.383	86.609	100.752	114.811	128.787	142.680	156.489	170.215			
24			94.619	110.097	125.491	140.802	156.030	171.174	186.235			
26			102.629	119.442	136.172	152.818	169.380	185.859	202.255			
28				128.787	146.852	164.833	182.730	200.545	218.275			
30				138.132	157.532	176.848	196.081	215.230	234.296			

PITTSBURGH PIPING & EQUIPMENT CO.

STANDARD THICKNESSES OF O. D. STEEL PIPE

NOMINAL WEIGHT

IN POUNDS PER FOOT OF

Size O. D.	¼"	5/16"	⅜"	7/16"	½"	9/16"	⅝"	11/16"	¾"	13/16"	⅞"	15/16"	1"	1⅛"
14	36.713	45.962	54.768	63.271	72.091	80.726	89.177	97.748	106.134	114.644	122.964	131.409	139.842	154.800
15	39.383	49.309	58.672	68.044	77.411	86.774	95.954	105.091	114.144	123.214	132.000	140.922	149.872	165.710
16	42.053	52.657	62.576	72.716	82.771	92.742	102.629	112.433	122.154	131.785	141.345	150.922	160.202	176.725
17	44.723	56.005	66.584	77.389	88.111	98.710	109.301	119.776	130.164	140.356	150.690	160.922	170.602	187.740
18	47.393	59.357	70.588	82.061	93.451	104.707	115.979	127.118	138.174	149.927	160.035	171.435	181.602	202.750
20		63.708	75.809	87.407	104.131	116.772	129.330	141.806	154.194	166.998	178.725	190.948	202.923	226.796
21		65.045	82.604	96.079	109.471	122.780	136.005	149.146	162.204	175.263				
22		72.389	86.609	100.752	114.811	128.787	142.680	156.489	170.215	183.921				
24		94.670		110.097	125.491	140.802	156.030	171.174	186.235	201.297				
26		102.629		119.442	136.172	152.818	169.380	185.859	202.255	218.652				
28				128.787	146.852	164.833	182.730	200.545	218.275	236.008				
30				138.132	157.532	176.848	196.081	215.230	234.296	253.363				

PITTSBURGH PIPING & EQUIPMENT CO.

DECIMAL OF AN INCH AND OF A FOOT

Fractions of Inch or Foot		Inch Equivalents to Foot Fractions	Fractions of Inch or Foot		Inch Equivalents to Foot Fractions	Fractions of Inch or Foot		Inch Equivalents to Foot Fractions	Fractions of Inch or Foot		Inch Equivalents to Foot Fractions
	.0052	1/16		.2552	3 1/16		.5052	6 1/16		.7552	9 1/16
	.0104	1/8		.2604	3 1/8		.5104	6 1/8		.7604	9 1/8
1/64	.015625	3/16	17/64	.265625	3 3/16	33/64	.515625	6 3/16	49/64	.765625	9 3/16
	.0208	1/4		.2708	3 1/4		.5208	6 1/4		.7708	9 1/4
	.0260	5/16		.2760	3 5/16		.5260	6 5/16		.7760	9 5/16
1/32	.03125	3/8	9/32	.28125	3 3/8	17/32	.53125	6 3/8	25/32	.78125	9 3/8
	.0365	7/16		.2865	3 7/16		.5365	6 7/16		.7865	9 7/16
	.0417	1/2		.2917	3 1/2		.5417	6 1/2		.7917	9 1/2
3/64	.046875	9/16	19/64	.296875	3 9/16	35/64	.546875	6 9/16	51/64	.796875	9 9/16
	.0521	5/8		.3021	3 5/8		.5521	6 5/8		.8021	9 5/8
	.0573	11/16		.3073	3 11/16		.5573	6 11/16		.8073	9 11/16
1/16	.0625	3/4	5/16	.3125	3 3/4	9/16	.5625	6 3/4	13/16	.8125	9 3/4
	.0677	13/16		.3177	3 13/16		.5677	6 13/16		.8177	9 13/16
	.0729	7/8		.3229	3 7/8		.5729	6 7/8		.8229	9 7/8
5/64	.078125	15/16	21/64	.328125	3 15/16	37/64	.578125	6 15/16	53/64	.828125	9 15/16
	.0833	1		.3333	4		.5833	7		.8333	10
	.0885	1 1/16		.3385	4 1/16		.5885	7 1/16		.8385	10 1/16
3/32	.09375	1 1/8	11/32	.34375	4 1/8	19/32	.59375	7 1/8	27/32	.84375	10 1/8
	.0990	1 3/16		.3490	4 3/16		.5990	7 3/16		.8490	10 3/16
	.1042	1 1/4		.3542	4 1/4		.6042	7 1/4		.8542	10 1/4
7/64	.109375	1 5/16	23/64	.359375	4 5/16	39/64	.609375	7 5/16	55/64	.859375	10 5/16
	.1146	1 3/8		.3646	4 3/8		.6146	7 3/8		.8646	10 3/8
	.1198	1 7/16		.3698	4 7/16		.6198	7 7/16		.8698	10 7/16
1/8	.1250	1 1/2	3/8	.3750	4 1/2	5/8	.6250	7 1/2	7/8	.8750	10 1/2
	.1302	1 9/16		.3802	4 9/16		.6302	7 9/16		.8802	10 9/16
	.1354	1 5/8		.3854	4 5/8		.6354	7 5/8		.8854	10 5/8
9/64	.140625	1 11/16	25/64	.390625	4 11/16	41/64	.640625	7 11/16	57/64	.890625	10 11/16
	.1458	1 3/4		.3958	4 3/4		.6458	7 3/4		.8958	10 3/4
	.1510	1 13/16		.4010	4 13/16		.6510	7 13/16		.9010	10 13/16
5/32	.15625	1 7/8	13/32	.40625	4 7/8	21/32	.65625	7 7/8	29/32	.90625	10 7/8
	.1615	1 15/16		.4115	4 15/16		.6615	7 15/16		.9115	10 15/16
	.1667	2		.4167	5		.6667	8		.9167	11
11/64	.171875	2 1/16	27/64	.421875	5 1/16	43/64	.671875	8 1/16	59/64	.921875	11 1/16
	.1771	2 1/8		.4271	5 1/8		.6771	8 1/8		.9271	11 1/8
	.1823	2 3/16		.4323	5 3/16		.6823	8 3/16		.9323	11 3/16
3/16	.1875	2 1/4	7/16	.4375	5 1/4	11/16	.6875	8 1/4	15/16	.9375	11 1/4
	.1927	2 5/16		.4427	5 5/16		.6927	8 5/16		.9427	11 5/16
	.1979	2 3/8		.4479	5 3/8		.6979	8 3/8		.9479	11 3/8
13/64	.203125	2 7/16	29/64	.453125	5 7/16	45/64	.703125	8 7/16	61/64	.953125	11 7/16
	.2083	2 1/2		.4583	5 1/2		.7083	8 1/2		.9583	11 1/2
	.2135	2 9/16		.4635	5 9/16		.7135	8 9/16		.9635	11 9/16
7/32	.21875	2 5/8	15/32	.46875	5 5/8	23/32	.71875	8 5/8	31/32	.96875	11 5/8
	.2240	2 11/16		.4740	5 11/16		.7240	8 11/16		.9740	11 11/16
	.2292	2 3/4		.4792	5 3/4		.7292	8 3/4		.9792	11 3/4
15/64	.234375	2 13/16	31/64	.484375	5 13/16	47/64	.734375	8 13/16	63/64	.984375	11 13/16
	.2396	2 7/8		.4896	5 7/8		.7396	8 7/8		.9896	11 7/8
	.2448	2 15/16		.4948	5 15/16		.7448	8 15/16		.9948	11 15/16
1/4	.2500	3	1/2	.5000	6	3/4	.7500	9	1	1.0000	12

PITTSBURGH PIPING & EQUIPMENT CO.

DECIMAL OF AN INCH AND OF A FOOT

Fractions of Inch or Foot		Equivalent Fractions of a Foot	Fractions of Inch or Foot		Equivalent Fractions of a Foot	Fractions of Inch or Foot		Equivalent Fractions of a Foot
.0052		1/64	.3646	23/64	3	.7552		9 1/64
.0104	1/128		.3698			.7604	97/128	
.0156		1/32	.3750	3/8	3 1/32	.7656		9 3/32
.0208	1/64		.3802	49/128		.7708	99/128	9 1/16
.0260		3/64	.3854		3 3/64	.7760		9 5/64
.0312	1/32	1/16	.3906	25/64	3 1/16	.7812	50/128	9 3/32
.0365			.3958			.7865	101/128	9 7/64
.0417	3/64		.4010	51/128		.7917		9 5/32
.0469	15/128	5/64	.4062	13/32	3 7/32	.7969	51/64	
.0521	1/16		.4115			.8021	103/128	9 9/64
.0573		3/32	.4167	53/128	3 1/4	.8073		9 11/64
.0625	1/16		.4219	27/64		.8125	13/16	9 3/32
.0677	17/256		.4271	55/128	3 9/32	.8177	105/128	9 13/64
.0729	3/64	7/64	.4323			.8229		9 7/32
.0781	5/64		.4375	7/16	3 5/16	.8281	53/64	9 15/64
.0833	1/12		.4427	57/128		.8333	107/128	10
.0885	19/256	1/8	.4479	29/64	3 11/32	.8385	54/64	10 1/64
.0937	3/32		.4531	59/128		.8437	109/128	10 1/32
.0990	1/16		.4583	15/32	3 13/32	.8490	55/64	10 3/64
.1042	1/12	9/64	.4635	61/128		.8542	111/128	10 1/16
.1094	7/64		.4688		3 15/32	.8594	7/8	10 5/64
.1146	3/32		.4740	31/64		.8646	113/128	10 3/32
.1198	5/64	5/32	.4792	63/128	3 1/2	.8698	57/64	10 7/64
.1250	1/8		.4844	1/2		.8750	114/128	10 1/8
.1302	5/96		.4896	65/128	3 17/32	.8802	58/64	10 9/64
.1354	1/8	11/64	.4948	33/64		.8854	115/128	10 5/32
.1406	9/64		.5000	67/128	3 9/16	.8906	29/32	10 11/64
.1458	7/48		.5052	17/32		.8958	117/128	10 3/16
.1510	5/32	3/16	.5104	69/128	3 19/32	.9010	59/64	10 13/64
.1563	5/32		.5156	35/64		.9062	118/128	10 7/32
.1615	11/64		.5208	71/128	3 5/8	.9115	15/16	10 15/64
.1667	3/16	13/64	.5260	9/16		.9167	119/128	11
.1719	11/64		.5312	73/128	3 21/32	.9219	60/64	11 1/64
.1771	13/64		.5365	37/64		.9271	121/128	11 1/32
.1823	3/16	7/32	.5417	75/128	3 23/32	.9323	61/64	11 3/64
.1875	13/64		.5469	19/32		.9375	122/128	11 1/16
.1927	7/32		.5521	77/128	3 25/32	.9427	62/64	11 5/64
.1979	15/64	15/64	.5573	39/64		.9479	123/128	11 3/32
.2031	1/8		.5625	9/16	3 13/16	.9531	63/64	11 7/64
.2083	5/48		.5677	79/128		.9583	124/128	11 1/8
.2135	17/128	1/4	.5729	37/64	3 27/32	.9635	125/128	11 9/64
.2188	7/32		.5781	81/128		.9688	31/32	11 5/32
.2240	9/64		.5833	19/32	3 29/32	.9740	126/128	11 11/64
.2292	15/128	17/64	.5885	83/128		.9792	63/64	11 3/16
.2344	15/64		.5938	39/64	3 15/16	.9844	127/128	11 13/64
.2396	11/64		.5990	85/128		.9896	1	11 7/32
.2448	15/64	9/32	.6042	41/64		.9948		11 15/64
.2500	1/4		.6094	87/128	4 5/32	1.0000	1	12
.2552	17/64		.6146	43/64				
.2604	1/4	19/64	.6198	89/128	4 7/32			
.2656	17/64		.6250	5/8				
.2708	13/64		.6302	91/128	4 9/32			
.2760	9/32	5/16	.6354	45/64				
.2812	9/32		.6406	93/128	4 11/32			
.2865	19/64		.6458	23/32				
.2917	15/64	21/64	.6510	93/128	4 13/32			
.2969	19/64		.6563	47/64				
.3021	5/16		.6615	95/128	4 15/32			
.3073	19/64	11/32	.6667	47/64				
.3125	5/16		.6719	97/128	4 17/32			
.3177	21/64		.6771	49/64				
.3229	11/32		.6823	99/128	4 19/32			
.3281	21/64	23/64	.6875	11/16				
.3333	11/32		.6927	99/128	4 21/32			
.3385	23/64		.6979	50/64				
.3438	11/32	25/64	.7031	101/128	4 23/32			
.3490	23/64		.7083	51/64				
.3542	23/64		.7135	103/128	4 25/32			
.3594	23/64	13/32	.7188	23/32				
.3646	23/64		.7240	103/128	4 27/32			
.3698	23/64		.7292	53/64				
.3750	23/64	27/64	.7344	105/128	4 29/32			
.3802	23/64		.7396	53/64				
.3854	23/64		.7448	107/128	4 31/32			
.3906	23/64	29/64	.7500	3/4				
.3958	23/64		.7552	107/128	5 1/32			
.4010	23/64		.7604	54/64				
.4062	23/64	31/64	.7656	109/128	5 3/32			
.4115	23/64		.7708	55/64				
.4167	23/64		.7760	111/128	5 5/32			
.4219	23/64	33/64	.7812	25/32				
.4271	23/64		.7865	111/128	5 7/32			
.4323	23/64		.7917	56/64				
.4375	23/64	35/64	.7969	113/128	5 9/32			
.4427	23/64		.8021	57/64				
.4479	23/64		.8073	115/128	5 11/32			
.4531	23/64	37/64	.8125	13/16				
.4583	23/64		.8177	115/128	5 13/32			
.4635	23/64		.8229	58/64				
.4688	23/64	39/64	.8281	117/128	5 15/32			
.4740	23/64		.8333	59/64				
.4792	23/64		.8385	119/128	5 17/32			
.4844	23/64	41/64	.8438	27/32				
.4896	23/64		.8490	119/128	5 19/32			
.4948	23/64		.8542	60/64				
.5000	1/2	6	.8594	121/128	5 21/32			
.5052	17/32		.8646	61/64				
.5104	69/128	5 19/32	.8698	123/128	5 23/32			
.5156	35/64		.8750	7/8				
.5208	71/128	5 5/8	.8802	123/128	5 25/32			
.5260	9/16		.8854	62/64				
.5312	73/128	5 21/32	.8906	125/128	5 27/32			
.5365	37/64		.8958	63/64				
.5417	75/128	5 23/32	.9010	127/128	5 29/32			
.5469	19/32		.9062	63/64				
.5521	77/128	5 25/32	.9115	15/16	5 31/32			
.5573	39/64		.9167	119/128				
.5625	9/16	5 27/32	.9219	60/64	6			
.5677	79/128		.9271	121/128				
.5729	37/64		.9323	61/64				
.5781	81/128	5 29/32	.9375	3/4				
.5833	19/32		.9427	121/128				
.5885	83/128	5 31/32	.9479	62/64				
.5938	39/64		.9531	123/128				
.5990	85/128	6	.9583	124/128				
.6042	41/64		.9635	125/128				
.6094	87/128	6 1/32	.9688	31/32				
.6146	43/64		.9740	126/128				
.6198	89/128	6 3/32	.9792	63/64				
.6250	5/8		.9844	127/128				
.6302	91/128	6 5/32	.9896	1				
.6354	45/64		.9948					
.6406	93/128	6 7/32	1.0000	1				
.6458	23/32							
.6510	93/128	6 9/32						
.6563	47/64							
.6615	95/128	6 11/32						
.6667	47/64							
.6719	97/128	6 13/32						
.6771	49/64							
.6823	99/128	6 15/32						
.6875	11/16							
.6927	99/128	6 17/32						
.6979	50/64							
.7031	101/128	6 19/32						
.7083	51/64							
.7135	103/128	6 21/32						
.7188	23/32							
.7240	103/128	6 23/32						
.7292	53/64							
.7344	105/128	6 25/32						
.7396	53/64							
.7448	107/128	6 27/32						
.7500	3/4							

PITTSBURGH PIPING & EQUIPMENT CO.

PROPERTIES OF SATURATED STEAM

GAUGE PRESSURE, Lbs. per Sq. Inch P	ABSOLUTE PRESSURE, Lbs. per Sq. Inch P_1	PRESSURE IN ATMOSPHERES p	TEMPERATURE IN DEGREES FAHRENHEIT T	WEIGHT OF ONE CUBIC FOOT OF STEAM IN LBS.	VOLUME OF ONE POUND OF STEAM IN CUBIC FEET
0	14.7	1.00	212.0	.0376	26.600
10	24.7	1.68	239.4	.0613	16.320
20	34.7	2.36	258.7	.0844	11.850
30	44.7	3.04	273.9	.1070	9.347
40	54.7	3.72	286.5	.1292	7.736
50	64.7	4.40	297.5	.1512	6.612
60	74.7	5.08	307.1	.1729	5.784
70	84.7	5.76	315.8	.1945	5.142
75	89.7	6.10	319.8	.2052	4.873
80	94.7	6.44	323.7	.2159	4.633
90	104.7	7.12	330.9	.2371	4.218
100	114.7	7.80	337.7	.2583	3.872
125	139.7	9.50	352.7	.3107	3.219
150	164.7	11.20	365.7	.3629	2.756
175	189.7	12.90	377.3	.4147	2.412
200	214.7	14.61	387.8	.4663	2.145
225	239.7	16.30	397.1	.5167	1.950
250	264.7	18.00	406.1	.5699	1.755
275	289.7	19.71	414.2	.6210	1.609
300	314.7	21.41	421.8	.6742	1.483

Note:—The temperature of Superheated Steam at any given pressure—P or P_1—equals the Temperature T given above for same pressure plus Temperature of Superheat.

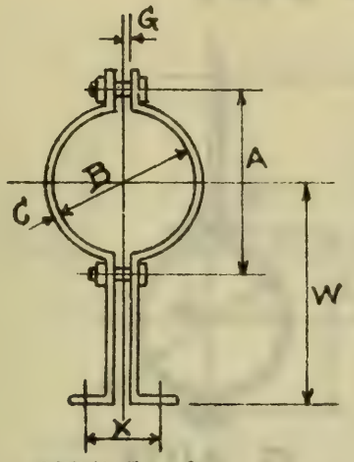
PROPERTIES OF SATURATED STEAM

GAUGE PRESSURE Lbs. per Sq. Inch P	ABSOLUTE PRESSURE, Lbs. per Sq. Inch P_1	PRESSURE IN ATMOSPHERES p	TEMPERATURE IN DEGREES FAHRENHEIT T	WEIGHT OF ONE CUBIC FOOT OF STEAM IN LBS.	VOLUME OF ONE POUND OF STEAM IN CUBIC FEET
0	14.7	1.00	212.0	.0376	26.600
10	24.7	1.68	239.4	.0613	16.320
20	34.7	2.36	258.7	.0844	11.850
30	44.7	3.04	273.9	.1078	9.347
40	54.7	3.72	288.3	.1292	7.736
50	64.7	4.40	297.6	.1512	6.612
60	74.7	5.08	307.1	.1729	5.784
70	84.7	5.76	316.0	.1945	5.142
75	89.7	6.10	319.8	.2052	4.873
80	94.7	6.44	323.7	.2159	4.633
90	104.7	7.12	330.9	.2371	4.218
100	114.7	7.80	337.7	.2583	3.872
115	129.7	8.80	347.2	.2907	3.219
150	164.7	11.20	365.7	.3629	2.756
175	189.7	12.90	377.3	.4147	2.412
200	214.7	14.61	387.8	.4653	2.149
225	239.7	16.30	397.1	.5157	1.939
250	264.7	18.00	406.1	.5699	1.754
275	289.7	19.71	414.2	.6270	1.595
300	314.7	21.41	421.8	.6742	1.483

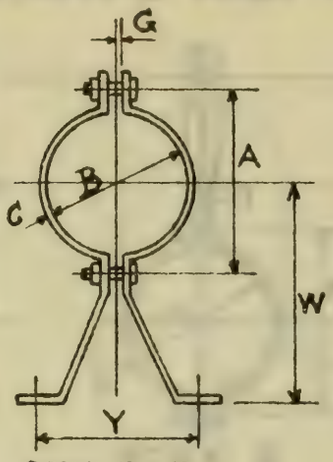
Note—The temperature of Superheated Steam at any given pressure—P or P_1—equals the Temperature T given above for same pressure plus Temperature of Superheat.

PITTSBURGH PIPING & EQUIPMENT CO.

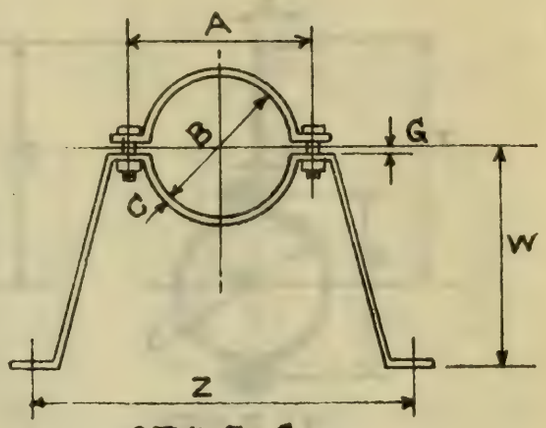
PIPE CLAMPS AND HANGERS



STYLE A



STYLE B



STYLE C

NOTE: W, X, Y & Z ARE FIELD DIMENSIONS.

SIZE	A	B	C	G	WIDTH BAR	BOLTS	HOLES
1		$1\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{3}{8} \times 1$	$\frac{7}{16}$
$1\frac{1}{4}$		$1\frac{3}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{3}{8} \times 1$	$\frac{7}{16}$
$1\frac{1}{2}$		2	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{3}{8} \times 1$	$\frac{7}{16}$
2	$4\frac{3}{4}$	$2\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{16}$	$1\frac{1}{2}$	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{9}{16}$
$2\frac{1}{2}$	$5\frac{1}{4}$	$2\frac{7}{8}$	$\frac{1}{4}$	$\frac{3}{16}$	$1\frac{1}{2}$	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{9}{16}$
3	$5\frac{3}{4}$	$3\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{16}$	2	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{9}{16}$
$3\frac{1}{2}$	$6\frac{1}{4}$	4	$\frac{1}{4}$	$\frac{1}{4}$	2	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{9}{16}$
4	7	$4\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$	2	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{9}{16}$
$4\frac{1}{2}$	$7\frac{1}{2}$	5	$\frac{1}{4}$	$\frac{5}{16}$	2	$\frac{5}{8} \times 1\frac{3}{4}$	$\frac{11}{16}$
5	8	$5\frac{5}{8}$	$\frac{1}{4}$	$\frac{5}{16}$	2	$\frac{5}{8} \times 1\frac{3}{4}$	$\frac{11}{16}$
6	$9\frac{1}{2}$	$6\frac{5}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	$2\frac{1}{2}$	$\frac{5}{8} \times 2$	$\frac{11}{16}$
7	$10\frac{1}{2}$	$7\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{4} \times 2\frac{1}{4}$	$\frac{13}{16}$
8	$11\frac{1}{2}$	$8\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{4} \times 2\frac{1}{4}$	$\frac{13}{16}$
9	$12\frac{1}{2}$	$9\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{4} \times 2\frac{1}{4}$	$\frac{13}{16}$
10	$13\frac{3}{4}$	$10\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{4} \times 2\frac{1}{4}$	$\frac{13}{16}$
12	$15\frac{3}{4}$	$12\frac{3}{4}$	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{7}{8} \times 2\frac{3}{4}$	$\frac{15}{16}$
14	$17\frac{3}{4}$	14	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{7}{8} \times 2\frac{3}{4}$	$\frac{15}{16}$
15	$18\frac{3}{4}$	15	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{7}{8} \times 2\frac{3}{4}$	$\frac{15}{16}$
16	$19\frac{3}{4}$	16	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{7}{8} \times 2\frac{3}{4}$	$\frac{15}{16}$
18	$21\frac{3}{4}$	18	$\frac{1}{2}$	$\frac{1}{2}$	3	$\frac{7}{8} \times 3$	$\frac{15}{16}$
20	$23\frac{3}{4}$	20	$\frac{1}{2}$	$\frac{1}{2}$	$3\frac{1}{2}$	1×3	$1\frac{1}{16}$
22	26	22	$\frac{1}{2}$	$\frac{9}{16}$	$3\frac{1}{2}$	$1 \times 3\frac{1}{4}$	$1\frac{1}{16}$
24	28	24	$\frac{1}{2}$	$\frac{9}{16}$	$3\frac{1}{2}$	$1 \times 3\frac{1}{4}$	$1\frac{1}{16}$

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS

STYLE A

STYLE B

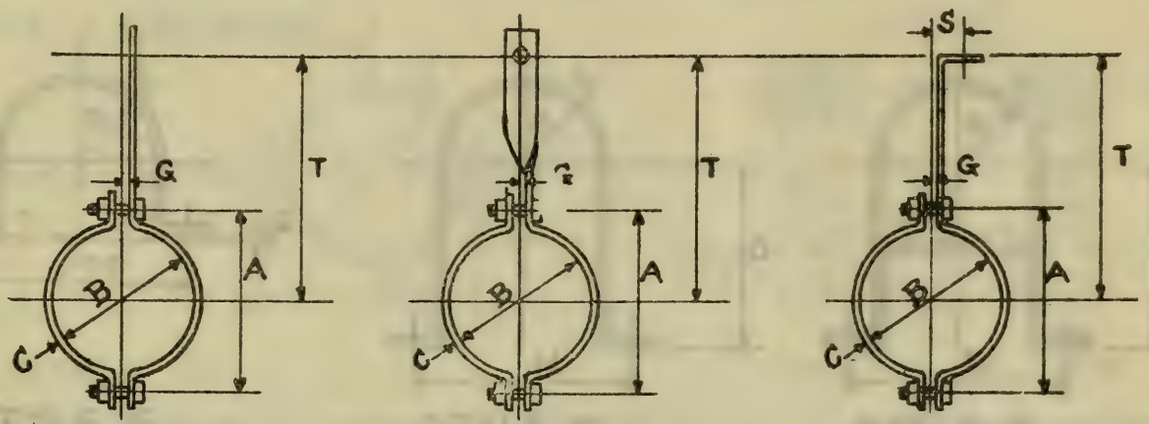
STYLE C

NOTE: W, X, Y & Z ARE FIELD DIMENSIONS.

SIZE	A	B	C	D	WEIGHT EACH	BOLTS	MOLDS
1		1 7/16	5/8	3/8	1	5/8 x 1	1/2
1 1/4		1 11/16	5/8	3/8	1	5/8 x 1	1/2
1 1/2		2	5/8	3/8	1	5/8 x 1	1/2
2	4 3/8	2 3/8	3/4	1/4	1 1/2	3/4 x 1 1/2	5/8
2 1/2	5 1/4	2 7/8	3/4	1/4	1 1/2	3/4 x 1 1/2	5/8
3	5 5/8	3 3/8	3/4	1/4	2	3/4 x 1 1/2	5/8
3 1/2	6 1/4	4	7/8	1/4	2	3/4 x 1 1/2	5/8
4	7	4 3/8	7/8	1/4	2	3/4 x 1 1/2	5/8
4 1/2	7 1/2	5	1	1/4	2	7/8 x 1 3/4	3/4
5	8	5 1/4	1	1/4	2	7/8 x 1 3/4	3/4
6	9 1/2	6 3/8	1 1/8	3/8	2 1/2	7/8 x 2	3/4
7	10 1/2	7 3/8	1 1/8	3/8	2 1/2	1 x 2 1/4	7/8
8	11 1/2	8 3/8	1 1/8	3/8	2 1/2	1 x 2 1/4	7/8
9	12 1/2	9 3/8	1 1/8	3/8	2 1/2	1 x 2 1/4	7/8
10	13 1/2	10 3/8	1 1/8	3/8	2 1/2	1 x 2 1/4	7/8
12	15 1/2	12 3/8	1 1/4	1/2	3	1 1/8 x 2 1/2	1
14	17 1/2	14	1 1/4	1/2	3	1 1/8 x 2 1/2	1
15	18 1/2	15	1 1/4	1/2	3	1 1/8 x 2 1/2	1
16	19 1/2	16	1 1/4	1/2	3	1 1/8 x 2 1/2	1
18	21 1/2	18	1 1/4	1/2	3	1 1/8 x 3	1
20	23 1/2	20	1 1/4	1/2	3 1/2	1 x 3	1 1/8
22	25	22	1 3/8	1/2	3 1/2	1 x 3 1/4	1 1/8
24	28	24	1 3/8	1/2	3 1/2	1 x 3 1/4	1 1/8

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS



NOTE:- S & T ARE FIELD DIMENSIONS.

SIZE	A	B	C	G	WIDTH BAR	BOLTS	HOLES
1		1 3/8	1/8	1/8	1	3/8 × 1	7/16
1 1/4		1 3/4	1/8	1/8	1	3/8 × 1	7/16
1 1/2		2	1/8	1/8	1	3/8 × 1	7/16
2	4 3/4	2 3/8	1/4	3/16	1 1/2	1/2 × 1 1/2	9/16
2 1/2	5 1/4	2 7/8	1/4	3/16	1 1/2	1/2 × 1 1/2	9/16
3	5 3/4	3 1/2	1/4	3/16	2	1/2 × 1 1/2	9/16
3 1/2	6 1/4	4	1/4	1/4	2	1/2 × 1 1/2	9/16
4	7	4 1/2	1/4	1/4	2	1/2 × 1 1/2	9/16
4 1/2	7 1/2	5	1/4	5/16	2	5/8 × 1 3/4	11/16
5	8	5 5/8	1/4	5/16	2	5/8 × 1 3/4	11/16
6	9 1/2	6 5/8	3/8	5/16	2 1/2	5/8 × 2	11/16
7	10 1/2	7 5/8	3/8	3/8	2 1/2	3/4 × 2 1/4	13/16
8	11 1/2	8 5/8	3/8	3/8	2 1/2	3/4 × 2 1/4	13/16
9	12 1/2	9 5/8	3/8	3/8	2 1/2	3/4 × 2 1/4	13/16
10	13 3/4	10 3/4	3/8	3/8	2 1/2	3/4 × 2 1/4	13/16
12	15 3/4	12 3/4	1/2	7/16	3	7/8 × 2 3/4	15/16
14	17 3/4	14	1/2	7/16	3	7/8 × 2 3/4	15/16
15	18 3/4	15	1/2	7/16	3	7/8 × 2 3/4	15/16
16	19 3/4	16	1/2	7/16	3	7/8 × 2 3/4	15/16
18	21 3/4	18	1/2	1/2	3	7/8 × 3	15/16
20	23 3/4	20	1/2	1/2	3 1/2	1 × 3	1 1/16
22	26	22	1/2	9/16	3 1/2	1 × 3 1/4	1 1/16
24	28	24	1/2	9/16	3 1/2	1 × 3 1/4	1 1/16

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS

STYLE D

STYLE E

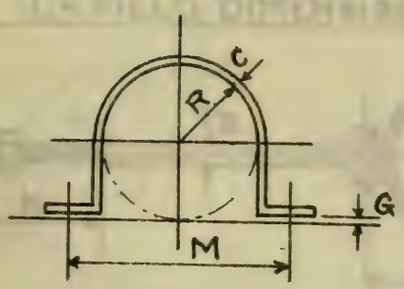
STYLE F

NOTE:- S & T ARE FIELD DIMENSIONS.

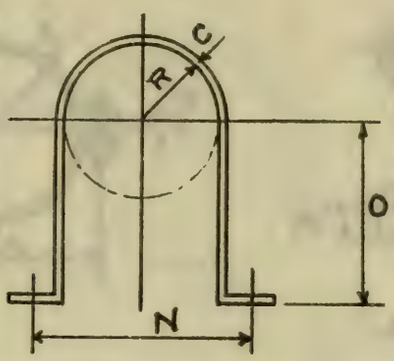
SIZE	A	B	C	G	LENGTH RAD	BOLTS	HOLES
1		1⅜	⅜	⅜	1	⅜ x 1	⅜
1¼		1¾	⅜	⅜	1	⅜ x 1	⅜
1½		2	⅜	⅜	1	⅜ x 1	⅜
2	4¾	2½	½	½	1½	⅜ x 1½	⅜
2½	5¼	2⅞	½	½	1½	⅜ x 1½	⅜
3	5¾	3½	½	½	2	⅜ x 1½	⅜
3½	6¼	4	½	½	2	⅜ x 1½	⅜
4	7	4½	½	½	2	⅜ x 1½	⅜
4½	7½	5	½	½	2	⅜ x 1½	⅜
5	8	5⅝	½	½	2	⅜ x 1½	⅜
6	9½	6⅝	½	½	2½	⅜ x 2	⅜
7	10½	7⅝	½	½	2½	⅜ x 2½	⅜
8	11½	8⅝	½	½	2½	⅜ x 2½	⅜
9	12½	9⅝	½	½	2½	⅜ x 2½	⅜
10	13½	10¾	½	½	2½	⅜ x 2½	⅜
12	15½	12¾	½	½	3	⅜ x 2½	⅜
14	17½	14	½	½	3	⅜ x 2½	⅜
15	18½	15	½	½	3	⅜ x 2½	⅜
16	19½	16	½	½	3	⅜ x 2½	⅜
18	21½	18	½	½	3	⅜ x 3	⅜
20	23½	20	½	½	3½	1 x 3	1⅛
22	25	22	½	½	3½	1 x 3½	1⅛
24	28	24	½	½	3½	1 x 3½	1⅛

PITTSBURGH PIPING & EQUIPMENT CO.

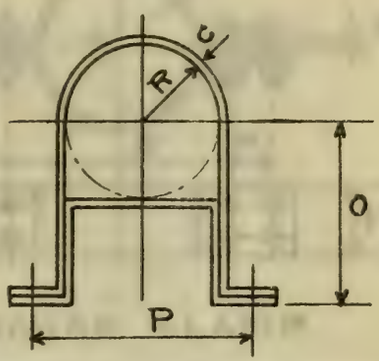
PIPE CLAMPS AND HANGERS



STYLE G



STYLE H



STYLE J

NOTE: M, N, O & P ARE FIELD DIMENSIONS.

SIZE	R	C	G	WIDTH BAR	HOLES
1	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{7}{16}$
$1\frac{1}{4}$	$\frac{7}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{7}{16}$
$1\frac{1}{2}$	1	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{7}{16}$
2	$1\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{16}$	$1\frac{1}{2}$	$\frac{9}{16}$
$2\frac{1}{2}$	$1\frac{7}{16}$	$\frac{1}{4}$	$\frac{3}{16}$	$1\frac{1}{2}$	$\frac{9}{16}$
3	$1\frac{3}{4}$	$\frac{1}{4}$	$\frac{3}{16}$	2	$\frac{9}{16}$
$3\frac{1}{2}$	2	$\frac{1}{4}$	$\frac{1}{4}$	2	$\frac{9}{16}$
4	$2\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	2	$\frac{9}{16}$
$4\frac{1}{2}$	$2\frac{1}{2}$	$\frac{1}{4}$	$\frac{5}{16}$	2	$\frac{11}{16}$
5	$2\frac{13}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	2	$\frac{11}{16}$
6	$3\frac{5}{16}$	$\frac{3}{8}$	$\frac{5}{16}$	$2\frac{1}{2}$	$\frac{11}{16}$
7	$3\frac{13}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{13}{16}$
8	$4\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{13}{16}$
9	$4\frac{13}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{13}{16}$
10	$5\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{13}{16}$
12	$6\frac{3}{8}$	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{15}{16}$
14	7	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{15}{16}$
15	$7\frac{1}{2}$	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{15}{16}$
16	8	$\frac{1}{2}$	$\frac{7}{16}$	3	$\frac{15}{16}$
18	9	$\frac{1}{2}$	$\frac{1}{2}$	3	$\frac{15}{16}$
20	10	$\frac{1}{2}$	$\frac{1}{2}$	$3\frac{1}{2}$	$1\frac{1}{16}$
22	11	$\frac{1}{2}$	$\frac{9}{16}$	$3\frac{1}{2}$	$1\frac{1}{16}$
24	12	$\frac{1}{2}$	$\frac{9}{16}$	$3\frac{1}{2}$	$1\frac{1}{16}$

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS

STYLE G

STYLE H

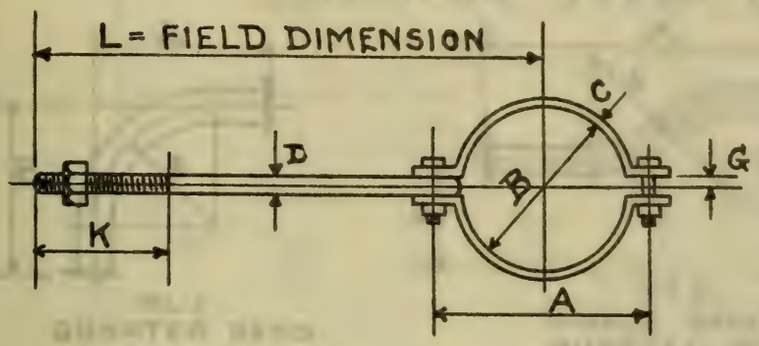
STYLE J

NOTE M, N, O & P ARE FIELD DIMENSIONS.

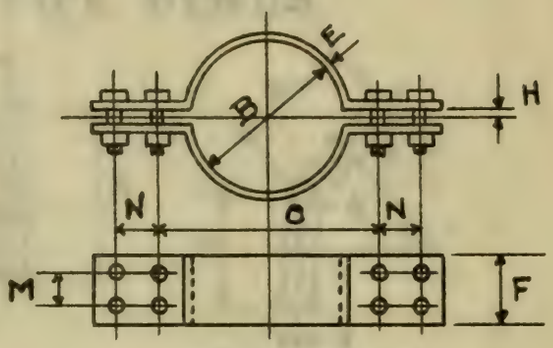
SIZE	R	C	G	WIDTH PIPE	HOLES
1	1 11/16	3/8	1/2	1	7/16
1 1/4	1 7/8	3/8	1/2	1	7/16
1 1/2	1	3/8	1/2	1	7/16
2	1 1/16	1/4	3/4	1 1/4	9/16
2 1/2	1 1/16	1/4	3/4	1 1/2	5/8
3	1 1/16	1/4	3/4	2	7/16
3 1/2	2	1/4	3/4	2	7/16
4	2 1/16	1/4	3/4	2	7/16
4 1/2	2 1/2	1/4	3/4	2	7/16
5	2 1/16	1/4	3/4	2	7/16
6	3 1/16	5/16	3/4	2 1/2	7/16
7	3 1/16	5/16	3/4	2 1/2	7/16
8	4 1/16	5/16	3/4	2 1/2	7/16
9	4 1/16	5/16	3/4	2 1/2	7/16
10	5 1/16	5/16	3/4	2 1/2	7/16
12	6 1/16	1/2	7/16	3	9/16
14	7	1/2	7/16	3	9/16
15	7 1/2	1/2	7/16	3	9/16
16	8	1/2	7/16	3	9/16
18	9	1/2	1/2	3	9/16
20	10	1/2	1/2	3 1/2	11/16
22	11	1/2	1/2	3 1/2	11/16
24	12	1/2	1/2	3 1/2	11/16

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS



STYLE K



ANCHOR CLAMP

STYLE "K" HANGERS									ANCHOR CLAMPS							
SIZE	A	B	C	D	G	K	WIDTH BARS	BOLTS	B	E	H	F	O	M	N	BOLTS
1		1 3/8	1/8	3/8	3/16	2	1	3/8 × 1 1/4	1 3/8	1/4	1/4	3 1/2	3 1/4	2	1 1/2	1/2 × 1 3/4
1 1/4		1 3/4	1/8	3/8	3/16	2	1	3/8 × 1 1/4	1 3/4	1/4	1/4	3 1/2	3 1/2	2	1 1/2	1/2 × 1 3/4
1 1/2		2	1/8	3/8	3/16	2	1	3/8 × 1 1/4	2	1/4	1/4	3 1/2	3 3/4	2	1 1/2	1/2 × 1 3/4
2	4 3/4	2 1/2	1/4	1/2	1/4	2 1/2	1 1/2	1/2 × 1 3/4	2 1/2	3/8	3/8	4	5	2 1/2	2	3/4 × 2 1/2
2 1/2	5 1/4	3	1/4	1/2	1/4	2 1/2	1 1/2	1/2 × 1 3/4	3	3/8	3/8	4	5 1/2	2 1/2	2	3/4 × 2 1/2
3	5 3/4	3 1/2	1/4	1/2	1/4	2 1/2	2	1/2 × 1 3/4	3 1/2	3/8	3/8	4	6	2 1/2	2	3/4 × 2 1/2
3 1/2	6 1/4	4	1/4	5/8	5/16	2 1/2	2	1/2 × 1 3/4	4	3/8	3/8	4	6 1/2	2 1/2	2	3/4 × 2 1/2
4	7	4 1/2	1/4	5/8	5/16	2 1/2	2	1/2 × 1 3/4	4 1/2	3/8	3/8	4	7	2 1/2	2	3/4 × 2 1/2
4 1/2	7 1/2	5	1/4	3/4	3/8	3	2	5/8 × 2	5	3/8	3/8	4	7 1/2	2 1/2	2	3/4 × 2 1/2
5	8	5 5/8	1/4	3/4	3/8	3	2	5/8 × 2	5 5/8	3/8	3/8	4	8 1/4	2 1/2	2	3/4 × 2 1/2
6	9 1/2	6 5/8	3/8	3/4	3/8	3	2 1/2	5/8 × 2 1/4	6 5/8	1/2	7/16	4 3/4	9 1/2	3	2 1/2	7/8 × 3
7	10 1/2	7 5/8	3/8	7/8	7/16	3 1/2	2 1/2	3/4 × 2 1/2	7 5/8	1/2	7/16	4 3/4	10 1/2	3	2 1/2	7/8 × 3
8	11 1/2	8 5/8	3/8	7/8	7/16	3 1/2	2 1/2	3/4 × 2 1/2	8 5/8	1/2	7/16	4 3/4	11 1/2	3	2 1/2	7/8 × 3
9	12 1/2	9 5/8	3/8	7/8	7/16	3 1/2	2 1/2	3/4 × 2 1/2	9 5/8	1/2	7/16	4 3/4	12 1/2	3	2 1/2	7/8 × 3
10	13 3/4	10 3/4	3/8	7/8	7/16	3 1/2	2 1/2	3/4 × 2 1/2	10 3/4	5/8	1/2	5 1/2	14 1/4	3 1/2	3	1 × 3 1/2
12	15 3/4	12 3/4	1/2	1	1/2	4	3	7/8 × 3	12 3/4	5/8	1/2	5 1/2	16 1/4	3 1/2	3	1 × 3 1/2
14	17 3/4	14	1/2	1	1/2	4	3	7/8 × 3	14	5/8	1/2	5 1/2	17 1/2	3 1/2	3	1 × 3 1/2
15	18 3/4	15	1/2	1	1/2	4	3	7/8 × 3	15	5/8	1/2	5 1/2	18 1/2	3 1/2	3	1 × 3 1/2
16	19 3/4	16	1/2	1	1/2	4	3	7/8 × 3	16	3/4	9/16	6 1/4	20	4	3 1/2	1 1/8 × 4
18	21 3/4	18	1/2	1 1/8	9/16	4	3	7/8 × 3 1/4	18	3/4	9/16	6 1/4	22	4	3 1/2	1 1/8 × 4
20	23 3/4	20	1/2	1 1/8	9/16	4	3 1/2	1 × 3 1/4	20	3/4	5/8	7	24 1/4	4 1/2	4	1 1/4 × 4 1/4
22	26	22	1/2	1 1/4	5/8	4	3 1/2	1 × 3 1/2	22	3/4	5/8	7	26 1/4	4 1/2	4	1 1/4 × 4 1/4
24	28	24	1/2	1 1/4	5/8	4	3 1/2	1 × 3 1/2	24	3/4	5/8	7	28 1/4	4 1/2	4	1 1/4 × 4 1/4

PITTSBURGH PIPING & EQUIPMENT CO.

PIPE CLAMPS AND HANGERS

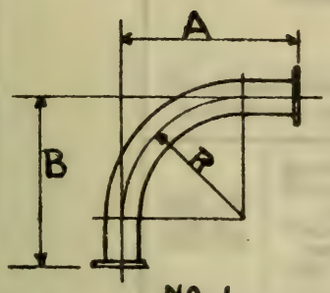
STYLE K

ANCHOR CLAMP

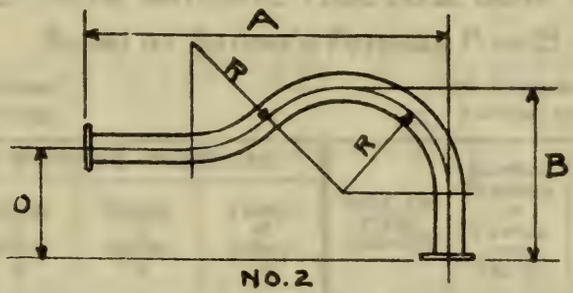
STYLE "K" HANGERS									ANCHOR CLAMPS							
SIZE	A	B	C	D	G	K	WIDTH BARS	BOLTS	B	E	H	P	O	M	N	BOLTS
1		1 9/16	3/8	1/4	1 1/16	2	1	5/8 x 4 1/2	1 1/4	1/4	1/4	3 1/2	3 1/4	2	1 1/2	1/2 x 1 1/2
1 1/4		1 13/16	3/8	1/4	1 1/16	2	1	5/8 x 4 1/2	1 1/4	1/4	1/4	3 1/2	3 1/4	2	1 1/2	1/2 x 1 1/2
1 1/2		2	3/8	1/4	1 1/16	2	1	5/8 x 4 1/2	1 1/4	1/4	1/4	3 1/2	3 1/4	2	1 1/2	1/2 x 1 1/2
2	4 3/4	2 1/2	1/2	1/4	1 1/16	2 1/2	1 1/2	5/8 x 4 1/2	1 1/4	1/4	3/8	4	5	2 1/2	2	5/8 x 2 1/2
2 1/2	5 1/4	3	1/2	1/4	1 1/16	2 1/2	1 1/2	5/8 x 4 1/2	1 1/4	1/4	3/8	4	5 1/2	2 1/2	2	5/8 x 2 1/2
3	5 3/4	3 1/2	1/2	1/4	1 1/16	2 1/2	2	3/4 x 4 1/2	1 1/4	1/4	3/8	4	6	2 1/2	2	5/8 x 2 1/2
3 1/2	6 1/4	4	1/2	1/4	1 1/16	2 1/2	2	3/4 x 4 1/2	1 1/4	1/4	3/8	4	6 1/2	2 1/2	2	5/8 x 2 1/2
4	7	4 1/2	1/2	1/4	1 1/16	2 1/2	2	3/4 x 4 1/2	1 1/4	1/4	3/8	4	7	2 1/2	2	5/8 x 2 1/2
4 1/2	7 1/2	5	1/2	1/4	1 1/16	3	2	3/4 x 4 1/2	1 1/4	1/4	3/8	4	7 1/2	2 1/2	2	5/8 x 2 1/2
5	8	5 1/2	1/2	1/4	1 1/16	3	2	3/4 x 4 1/2	1 1/4	1/4	3/8	4	8 1/2	2 1/2	2	5/8 x 2 1/2
6	9 1/2	6 1/2	5/8	1/4	1 1/16	3	2 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	9 1/2	3	2 1/2	5/8 x 3
7	10 1/2	7 1/2	5/8	1/4	1 1/16	3 1/2	2 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	10 1/2	3	2 1/2	5/8 x 3
8	11 1/2	8 1/2	5/8	1/4	1 1/16	3 1/2	2 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	11 1/2	3	2 1/2	5/8 x 3
9	12 1/2	9 1/2	5/8	1/4	1 1/16	3 1/2	2 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	12 1/2	3	2 1/2	5/8 x 3
10	13 1/2	10 1/2	5/8	1/4	1 1/16	3 1/2	2 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	14 1/2	3 1/2	3	1 x 3 1/2
12	15 1/2	12 1/2	3/4	1/2	1 1/16	4	3	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	16 1/2	3 1/2	3	1 x 3 1/2
14	17 1/2	14	3/4	1/2	1 1/16	4	3	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	17 1/2	3 1/2	3	1 x 3 1/2
15	18 1/2	15	3/4	1/2	1 1/16	4	3	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	18 1/2	3 1/2	3	1 x 3 1/2
16	19 1/2	16	3/4	1/2	1 1/16	4	3	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	20	4	3 1/2	1 1/2 x 4
18	21 1/2	18	3/4	1/2	1 1/16	4	3	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	22	4	3 1/2	1 1/2 x 4
20	23 1/2	20	3/4	1/2	1 1/16	4	3 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	24 1/2	4	4 1/2	1 1/2 x 4 1/2
22	25	22	3/4	1/2	1 1/16	4	3 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	26 1/2	4 1/2	4	1 1/2 x 4 1/2
24	28	24	3/4	1/2	1 1/16	4	3 1/2	3/4 x 4 1/2	1 1/4	1/4	3/8	4 1/2	28 1/2	4 1/2	4	1 1/2 x 4 1/2

PITTSBURGH PIPING & EQUIPMENT CO.

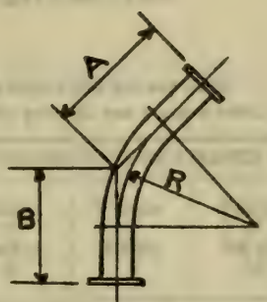
VARIOUS TYPES OF PIPE BENDS



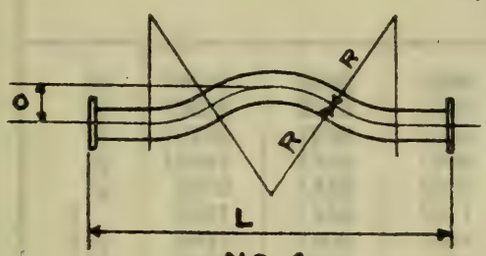
NO. 1
QUARTER BEND



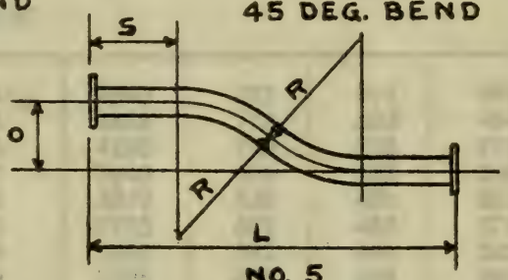
NO. 2
SINGLE OFFSET
QUARTER BEND



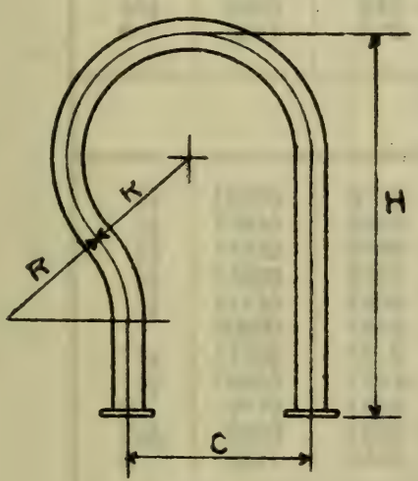
NO. 3
45 DEG. BEND



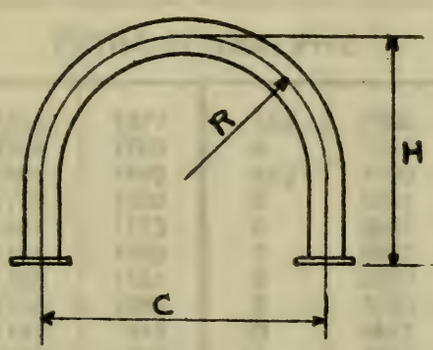
NO. 4
CROSS OVER



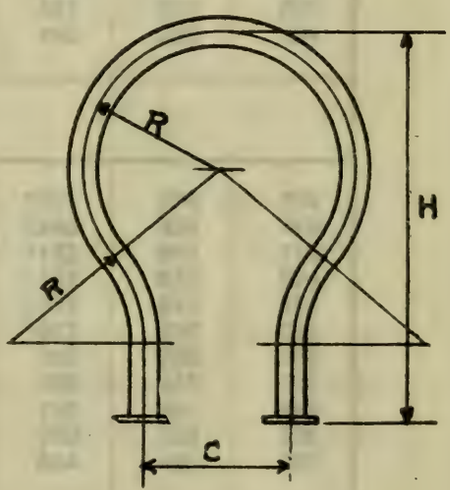
NO. 5
OFFSET



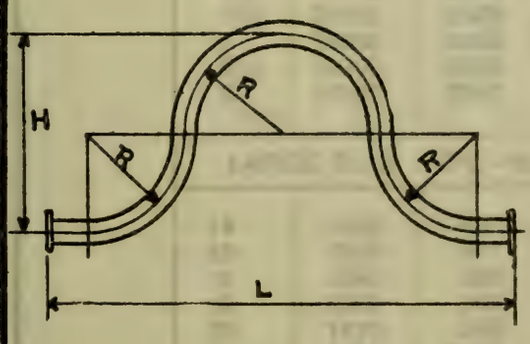
NO. 6
SINGLE OFFSET
U BEND



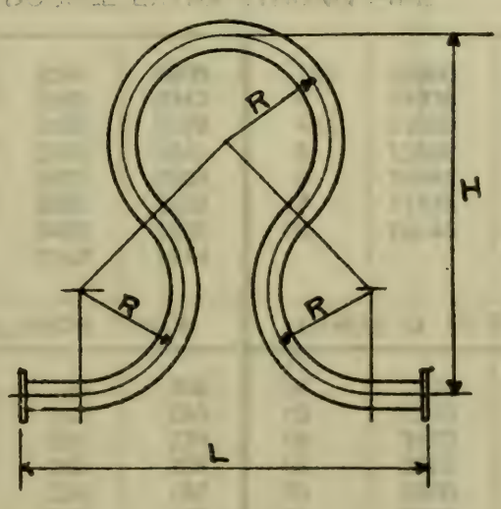
NO. 7
U BEND



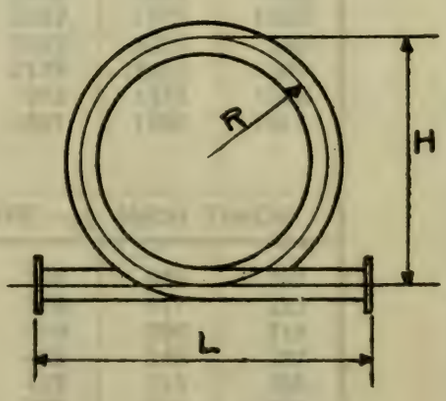
NO. 8
DOUBLE OFFSET
U BEND



NO. 9
EXPANSION U BEND



NO. 10
DOUBLE OFFSET
EXPANSION U BEND



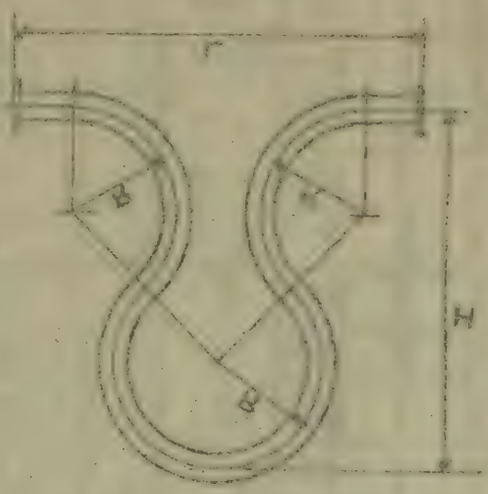
NO. 11
CIRCLE BEND

NOTE: FOR DIMENSION "R" SEE TABLES NO. 68 & 69.

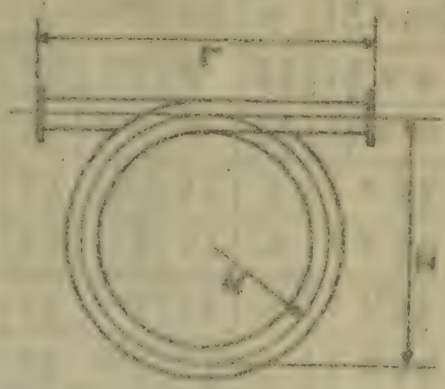
NOTE: FOR DIMENSION "B" SEE TABLE NO. 12 & 14

EXPANSION U BEND
NO. 9

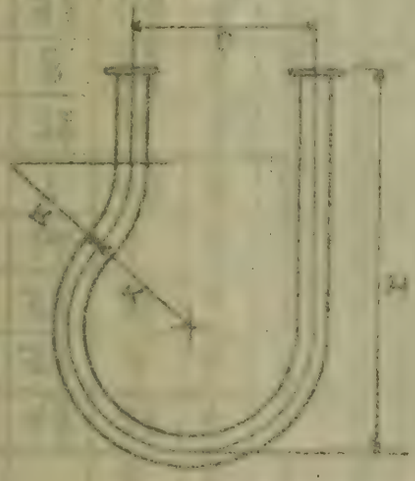
EXPANSION U BEND
DOUBLE OFFSET
NO. 10



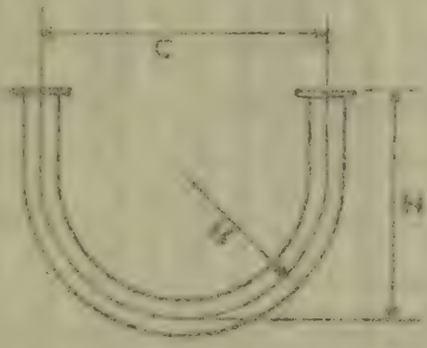
CIRCLE BEND
NO. 11



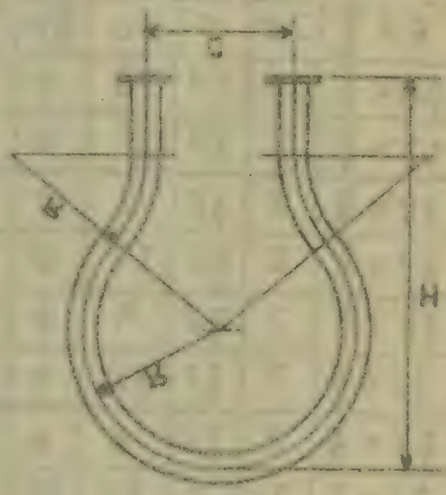
U BEND
SINGLE OFFSET
NO. 6



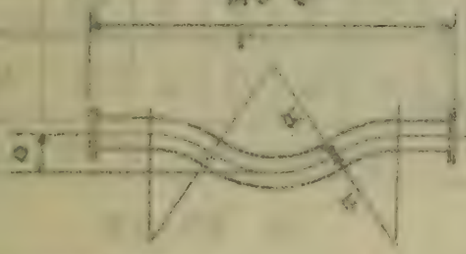
U BEND
NO. 7



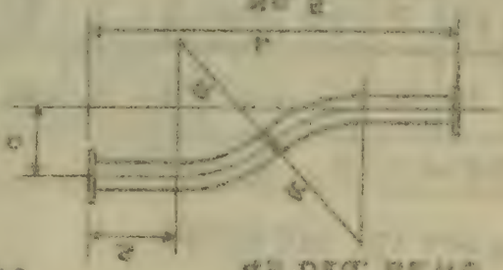
U BEND
DOUBLE OFFSET
NO. 8



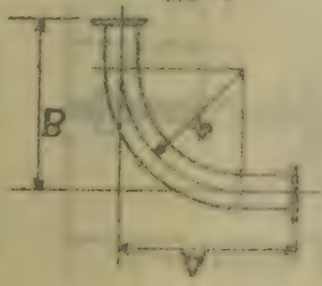
CROSS OVER
NO. 4



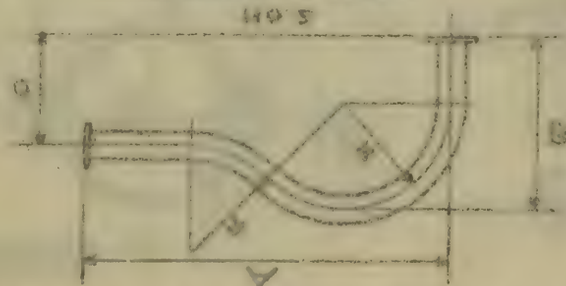
OFFSET
NO. 5



QUARTER BEND
NO. 1



QUARTER BEND
SINGLE OFFSET
NO. 2



45 DEG. BEND
NO. 3

VARIOUS TYPES OF PIPE BENDS

PITTSBURGH PIPING & EQUIPMENT CO.

WORKING AND BURSTING PRESSURES OF WROUGHT STEEL PIPE

CONDENSED FROM NATIONAL TUBE CO'S. BOOK OF STANDARDS

Based on Barlow's Formula $P = 2f\frac{t}{D}$

D—Outside diameter in inches.
t—Thickness of wall in inches.

P—Pressure in pounds per square inch.
f—Fiber stress in pounds per square inch.

SIZE OF PIPE, INCHES	Bursting Pressure in Pounds per Sq. In.	WORKING PRESSURES Factor of Safety 6	Factor of Safety 8	Factor of Safety 10	SIZE OF PIPE, INCHES	Bursting Pressure in Pounds per Sq. In.	WORKING PRESSURES Factor of Safety 6	Factor of Safety 8	Factor of Safety 10
STANDARD PIPE									
⅛	13432	2239	1679	1343	4½	4940	823	618	494
¼	13037	2173	1630	1304	5	4638	773	580	464
⅜	10785	1798	1348	1079	6	4226	704	528	423
½	10381	1730	1298	1038	7	3948	658	493	395
¾	8610	1435	1076	861	8	3212	535	401	321
1	8091	1349	1011	809	8	3733	622	467	373
1¼	8434	1406	1054	843	9	3553	592	444	355
1½	7632	1272	954	763	10	2595	433	324	260
2	6484	1081	811	648	10	2856	476	357	286
2½	7061	1177	883	706	10	3395	566	424	340
3	6171	1029	771	617	11	3191	532	399	319
3½	5650	942	706	565	12	2588	431	324	259
4	5267	878	658	527	12	2941	490	368	294
EXTRA STRONG PIPE									
⅛	18765	3128	2346	1877	3½	7950	1325	994	795
¼	17630	2938	2204	1763	4	7489	1248	936	749
⅜	14933	2489	1867	1493	4½	7100	1183	888	710
½	14000	2333	1750	1400	5	6741	1124	843	674
¾	11733	1956	1467	1173	6	6521	1087	815	652
1	10890	1815	1361	1089	7	6557	1093	820	656
1¼	11506	1918	1438	1151	8	5797	966	725	580
1½	10526	1754	1316	1053	9	5195	866	649	519
2	9179	1530	1147	918	10	4651	775	581	465
2½	9600	1600	1200	960	11	4255	709	532	426
3	8571	1429	1071	857	12	3922	654	490	392
DOUBLE EXTRA STRONG PIPE									
½	28000	4667	3500	2800	3½	15900	2650	1988	1590
¾	23467	3911	2933	2347	4	14978	2496	1872	1498
1	21779	3630	2722	2178	4½	14200	2367	1775	1420
1¼	18410	3068	2301	1841	5	13482	2247	1685	1348
1½	21053	3509	2632	2105	6	13042	2174	1630	1304
2	18358	3060	2295	1836	7	11475	1913	1434	1148
2½	19200	3200	2400	1920	8	10145	1691	1268	1014
3	17143	2857	2143	1714					
LARGE O. D. PIPE—⅜ INCH THICK					**LARGE O. D. PIPE—½ INCH THICK**				
14	2680	447	335	268	14	3570	595	446	357
15	2500	417	313	250	15	3333	556	417	333
16	2340	390	293	234	16	3120	520	390	312
18	2080	347	260	208	18	2770	462	346	277
20	1870	312	234	187	20	2500	417	313	250
22	1700	283	213	170	22	2270	378	284	227
24	1560	260	195	156	24	2080	347	260	208

WORKING AND BURSTING PRESSURES OF WROUGHT STEEL PIPE

CONDENSED FROM NATIONAL TUBE CO.'S BOOK OF STANDARDS

Based on Barlow's Formula $P = 2f\frac{t}{D}$

D—Outside diameter in inches.
t—Thickness of wall in inches.
P—Pressure in pounds per square inch.
f—Fiber stress in pounds per square inch.

SIZE OF PIPE, INCHES	Bursting Pressure in Pounds per Sq. in.	WORKING PRESSURES		
		Factor of Safety 6	Factor of Safety 8	Factor of Safety 10
STANDARD PIPE				
¼	1240	206	155	124
⅜	1700	283	212	170
½	1600	266	200	160
¾	2000	333	250	200
1	2320	386	290	232
1¼	2400	400	300	240
1½	2480	413	310	248
2	2640	440	330	264
2½	3120	520	390	312
3	3320	553	415	332
3½	3520	586	440	352
4	3640	606	455	364
4½	3720	620	465	372
5	3800	633	475	380
6	4000	666	500	400
7	4160	693	520	416
8	4320	720	540	432
9	4480	746	560	448
10	4640	773	580	464
11	4800	800	600	480
12	4960	826	620	496
EXTRA STRONG PIPE				
¼	1240	206	155	124
⅜	1700	283	212	170
½	2000	333	250	200
¾	2320	386	290	232
1	2640	440	330	264
1¼	3120	520	390	312
1½	3440	573	430	344
2	3920	653	490	392
2½	5800	966	725	580
3	5760	960	720	576
3½	5720	953	715	572
4	5680	946	710	568
4½	5640	940	705	564
5	5600	933	700	560
6	5520	920	690	552
7	5440	906	680	544
8	5360	893	670	536
9	5280	880	660	528
10	5200	866	650	520
11	5120	853	640	512
12	5040	840	630	504
DOUBLE EXTRA STRONG PIPE				
½	2800	466	350	280
¾	3640	606	455	364
1	4240	706	530	424
1¼	5040	840	630	504
1½	5440	906	680	544
2	5920	986	740	592
2½	8000	1333	1000	800
3	7680	1280	960	768
3½	7440	1240	930	744
4	7200	1200	900	720
4½	7040	1173	880	704
5	6880	1146	860	688
6	6560	1093	820	656
7	6240	1040	780	624
8	5920	986	740	592
LARGE O. D. PIPE—¾ INCH THICK				
14	2680	447	335	268
15	2520	420	315	252
16	2360	393	295	236
18	2040	340	255	204
20	1720	286	215	172
22	1400	233	175	140
24	1080	180	135	108
LARGE O. D. PIPE—¾ INCH THICK				
14	3570	595	446	357
15	3333	555	417	333
16	3120	520	390	312
18	2720	453	340	272
20	2320	386	290	232
22	1920	320	240	192
24	1520	253	190	152

PITTSBURGH PIPING & EQUIPMENT CO.

APPROXIMATE WEIGHTS OF GATE AND GLOBE VALVES

SIZE	LOW PRESSURE		STANDARD				EXTRA HEAVY I. B. B. M.			
	Flanged Gate Valves		Flanged Gate Valves		Globe Valves		Flanged Gate Valves		Globe Valves	
	Inside Screw	O. S. & Y.	Inside Screw	O. S. & Y.	Screwed	Flanged	Inside Screw	O. S. & Y.	Screwed	Flanged
2			40	40	25	35		50		65
2½			50	55	30	40	85	105	80	100
3			60	65	45	60	125	130	110	135
3½			80	85	55	70	160	170		
4			100	110	70	95	195	205	170	205
4½			115	125	80	100	230	255		
5			120	150	115	140	265	290	235	270
6			155	180	160	190	350	395	330	375
7			215	245	210	255	435	490	420	470
8			255	315	290	325	555	625	575	635
9			320	400			695	775		
10			405	510	455	505	755	950	900	985
12			580	705	760	880	1190	1300		1250
14	550		855	980		1250	1700	*2000		2100
15			885							
16	650	730	1125	1275		1900	2300	*2650		
18	800	900	1390	1700				*3300		
20	1000	1160	1715	2050				*3900		
22	1400	1800	2085							
24	1650	2100	2760	3200				*5500		
26										
28										
30	2800	3000	5200	5400						
36	4300	4500								

*Bypassed.

PITTSBURGH PIPING & EQUIPMENT CO.

APPROXIMATE WEIGHTS OF GATE AND GLOBE VALVES

SIZE	LOW PRESSURE		STANDARD				EXTRA HEAVY I. B. M.			
	Flanged Gate Valves		Flanged Gate Valves		Globe Valves		Flange Gate Valves		Globe Valves	
	Inside Screw	O. S. & Y.	Inside Screw	O. S. & Y.	Screwed	Flanged	Inside Screw	O. S. & Y.	Screwed	Flanged
2			40	40	25	35		60		65
2½			60	55	30	40	85	105	80	100
3			60	65	45	60	125	120	110	135
3½			80	85	55	70	150	170		
4			100	110	70	95	195	205	170	205
4½			115	125	80	100	230	255		
5			130	150	115	140	265	290	235	270
6			155	185	160	190	350	395	330	375
7			215	245	210	255	435	490	420	470
8			255	315	290	325	555	620	575	635
9			320	400			695	725		
10			405	510	455	505	755	860	900	985
12			580	705	760	880	1190	1300		1250
14	560		685	960		1250	1700	*2000		2100
15			885							
16	560	730	1125	1275		1900	2300	*2650		
18	805	940	1500	1700				*3000		
20	1000	1170	1915	2050				*3500		
22	1400	1800	2085							
24	1650	2100	2700					*4500		
26										
28										
30	2400	3000	5000							
36	4200	4500								

*Approximate.

153 90

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